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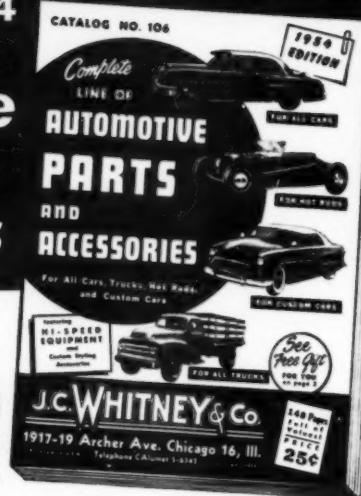


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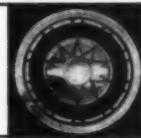
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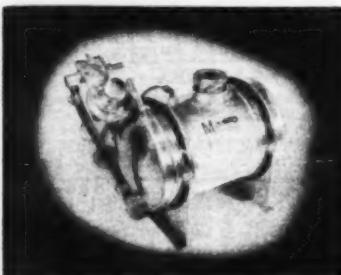
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ROD & Custom

Vol. 2, No. 1

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- Technical Editor
- Advertising Mgr.
- Photography

May, 1954

W. S. Quinn
Spencer Murray
Louis Kimzey
Ray Rich
Barney Navarro
Marvin Patchen
Ralph Poole

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ROD AND CUSTOM, May, 1954

editorial

I LIKE TO think of ROD & CUSTOM as a sort of gathering place for ideas and for reports on projects that auto enthusiasts throughout the country have seen fit to undertake. At first this came about through necessity for what we choose to call "mechanical reasons"; i.e., the limitations that time imposes upon us. The assembly and compilation of each issue takes place far before the date indicated upon the cover — sometimes as much as four months before. For this reason newsworthy items are left for the various other types of publications.

Through your many letters we found that the policy of presenting the results of thoughts transferred into metal and steel was what you were really after — not a report on who won what race or how so and so had someone build him a multi-thousand dollar car strictly for competition. Such things are far beyond the interest of our readers.

The down to earth reports that we try to give you on cars which have been reworked for greater speed and power, or cars which various owners have chosen to restyle with an eye to possible future designs, have been met with a great deal of enthusiasm in the past. Therefore, R & C shall uphold this policy and give you the facts as you want them — not in flowery, high sounding language but in familiar terms.

You may wonder why so much space is occasionally devoted to correspondence and why we continually ask the reader to drop us a line regarding this or that. We urge you to continue sending your cards and letters for it gives us a chance to learn your views on a myriad of subjects and it gives you the precious opportunity to be heard which is a birthright not to be forgotten.

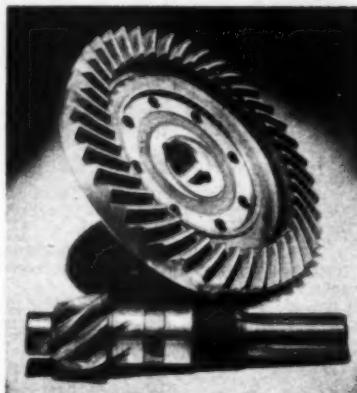
Remember our "Building a Chevmobile" in the September 1953 issue? Several of you have asked why the name of the builder of this car was not mentioned. Surely anyone who has done such work as warrants a lengthy article should be duly recognized and identified. The reason is simple enough — the car belongs to no one. Not exactly, anyway. It is the possession of ROD & CUSTOM.

Some time ago we decided to show you how certain modifications are completed in an easily understood manner and with step by step photographs so it was necessary for us to provide arrangements whereby the readers could follow an individual car through its construction. Such steps will include engine and frame modifications as well as both moderate and radical restyling. That

(Continued on Page 66)

ROD AND CUSTOM, May, 1954

Special Gears for Speed or Power



• Get 10 to 20% more speed on the road with your present engine speed, by replacing standard ratio gears with

3 1/4 to 1 GEARS for FORDS

1928-32.....	#AJ111.....	\$30.00
1935-48.....	#AJ153.....	48.50
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3 1/2 to 1 GEARS for CHEVROLET

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FOR 1/2, 3/8, 1/4, and 1/5 MILE TRACKS

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Other special ratios available for Ford 1/2-Ton and Station Wagon; Mercury Station Wagon; Plymouth, DeSoto, Dodge and Chrysler; Frazer and Kaiser; Olds, Pontiac, Studebaker and Willys.

Write for Ratio Chart and Prices

A. J. GETZ

4430 Carrollton Ave., Indianapolis 5, Ind.

Correspondence

WHO IS SHE?

Who, pray tell, was that girl on your February cover sitting in the Antique Buick? R. J. Johnson Santa Monica, Calif.
• Thought you'd never ask. She is Bette Richards of Bellflower, Calif.

NASH ENTHUSIAST

I am just one of your many readers and really enjoy your fine magazine. Keep up your fine beginning.

I have a '40 Nash four door sedan that I want to restyle slightly. Do you suppose any of your readers can give me some hints? Tom Fortney 3039 Inman Ferndale, Mich.

WANTS OLD CAR

I immensely enjoyed your January issue, particularly "What's Become of the Model T". I am an antique enthusiast and would like to see more of the same in R & C. I have a chopped and channeled '33 Ford roadster I would like to trade for an old touring car in restorable shape. Can anybody help? Danny Johnson Santa Fe Trail Motel Las Vegas, Nevada

ABOUT THE LATE HARVEY HALLER

It was with the deepest regret that I read of the death of Harvey Haller in the January issue of R & C.

I first met Lt. Haller while he was attached to VU-1 at Barbers Point, Hawaii. At the time he was building his famous lakes tank. I knew him but a short time before being transferred to this station but followed his activities very closely as I'm sure many enthusiasts in Hawaii have. His sportsmanship and determination were typical of rodders the world over and his loss will be felt among us all, especially among his friends and acquaintances on Oahu where his enthusiasm was an inspiration to many.

Sgt. G. L. Odom Kwajalein, Marshall Islands
• Before his passing, Harvey Haller proved to the world that an open wheel car could surpass the magic 200 mile mark. Having set his sights on this almost impossible goal and eventually attaining it, the name Harvey Haller will forever live on in the minds of enthusiasts all over the world. His passing was keenly felt by all who knew him and,

determined to make the dry lakes a safe place to race cars against time, members of all the clubs who use them have joined forces to recondition the surfaces as they have so sorely needed for a long time.

ANOTHER "JOHN MALES"?

Sorry to criticize your magazine, but we boys up here in the north east, and undoubtedly many others the country over, don't have the money or time to put into straight-away or competition cars.

It's not that we don't like them, but even if we did build one, we have no place to run that type of machinery. PLEASE, give us more street rods since that is all we can ever hope to build.

Give us more rods and less customs. We all like your book a great deal, but Kut the Kustoms.

John Hervieux Fort Edward, New York

• As we've told Texas reader John Males over and over, we try to keep everyone happy but there's always a few who will continue to complain. To bring out a point, though, we've covered more Rods than Customs, so there!

SAFETY

I wish to congratulate you on your fine magazine. There aren't too many Rods or Customs around here, only the ones belonging to a group of my friends.

As I said, your mag is great but it falls short in one category — safety. The group I spoke of earlier always thought that racing on the highway was a great thrill. Our minds were changed, though, when one of my friends was killed in a collision on the same stretch of road although he wasn't racing at the time. I don't think that *no racing on public highways* can be stressed enough. The death of our friend has shown us that safety at all times should be foremost in people's minds. We hope to organize a *Safety-Minded* car club and do our best toward preventing accidents.

Larry Immel New Paris, Ind.

• We always stress safety, Larry, but accidents have a bad habit of happening to the best of us. As a starting project for your club, try convincing your fellow motorists of the importance of safety belts, etc.

ROD AND CUSTOM, May, 1954

PROBLEM SOLVED

Reader Don Allen, in the February issue, had a problem of finding your magazine too short. By way of an answer, you suggested printing a circular magazine. Isn't that a bit silly? Why not put the last page in the center of the magazine?

Clark Gillespie Exeter, New Hampshire
• No comment.

T TROUBLES

I recently purchased a Model T coupe and need quite a few parts to get it going. Your article on T's in the January issue mentioned a wrecking yard in Colorado that had parts dating clear back to 1908. Also mentioned were similar yards in other sections of the country. Can you supply me with the address of such a yard near Minnesota?

C. C. Anderson Eagle Lake, Minn.

• The T specialty yard in Colorado has never accurately been located by us. Several antique hunting expeditions by us have proved beyond a doubt that such a graveyard exists but try as we may, actually seeing it has escaped us. Reliable sources place it in the Northeast corner of the state but beyond that we draw a blank.

Several T dealers have advertised in our Variety Mart. If one isn't listed in this issue avail yourself of several past issues. They contain the information you need. If this doesn't work, drop a line to W. Larson at 2227 W. 4th St., Williamsport, Penna., maybe he can help you.

THANKS FOR DO-IT-YOURSELF

In the November issue there was an article on custom dash knobs and how to make them. I thought I'd drop you a line and let you know that I enjoyed it and the other articles of the same type. I made a set of the dash knobs and would like to say that they were fun to do but I had a hard time finding the raw materials. However, they are finished now and look almost as professional as the ones in the article.

Tom March Alhambra, Calif.

• Glad you liked the article. We watched our knobs being made right before our eyes and knew that they were easily made and practical once they were finished.

CUSTOMIZING SCHOOL

Several years ago someone showed me a picture of a custom car and since that time I have followed the latest restyling trends. In fact, I have become so enthused over custom work that I want to make it my business.

At present I am attending a metal working class and learning how to straighten fenders, doors, etc. However, I have been taught noth-

(Continued on Page 62)

ROD AND CUSTOM, May, 1954

GOTHA EXHAUST CUT-OUT



\$5.95

LIST



Now!

AVAILABLE FOR:

CHEVROLET, BUICK, CADILLAC, CHRYSLER product 6s, FORD V-8 & 6, NASH, PONTIAC, STUDEBAKER, etc. Fits any exhaust pipe from 1 1/2" to 2".

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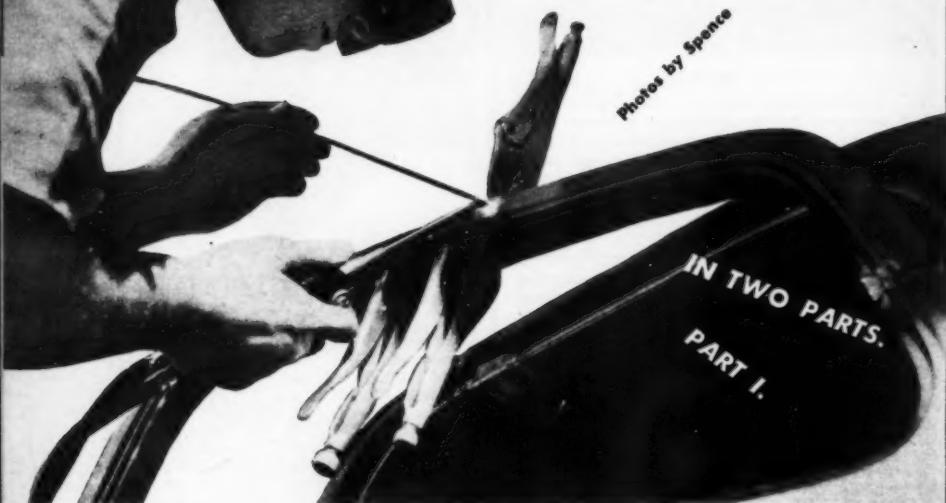
Use a GOTHA EXHAUST FITTING for "splitting" in-line manifolds and you can be sure of: less back-pressure (note streamlined neck opening), a crack and leakproof welded joint (made of cast iron), easier installation (long narrow neck fits all popular manifolds) and excellent appearance of finished manifold. Thousands in use on Chev., Plym., Buicks, Pontiacs, etc. Mail order 40 cents. \$3.75

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TOP CHOPPING - THE RIGHT WAY

Photos by Spence

IN TWO PARTS.
PART I.



**R & C's rolling laboratory was the featured car in
"Building a Chevmobile". Now here is
Progress Report Number II.**

EVEN THOUGH the popular Ten Steps To Customizing was concluded in the last issue, we are continually being bombarded with requests for photographic close-ups of custom restyling as it progresses, step by step. Author Tramz purposely did not go into detail on every single step of every conceivable phase of customizing, for to do so would have required millions of words and thousands of photos. Space limitations necessarily kept his coverage down to the bare essentials. Therefore, let's back track a little and delve into the mysteries of top chopping or, as custom body man Sam Gates prefers to call it, roof lowering.

Sam Gates is no stranger to the readers of R & C. It was he, you will remember, who reworked the fabulous Ford To End All Fords in our January issue.

Ever wonder why pickup trucks are so high? Maybe it's because the average pickup truck driver is seven feet tall or possibly because they all wear top hats when going about their daily chores. To return to the realistic, pickups are probably higher than

passenger cars for the driver's ease of exiting and entering. Whatever the case the point is this: pickups are blessed with an overabundance of height, height that can be easily done away with without interference of vision or headroom.

Though easier to chop than passenger cars, pickups offer certain challenging problems for the customizer. Since the windshield is slanted rearward, merely removing a section of metal from the upright posts will not cause the upper portion of the top to align perfectly when refitting time rolls around.

PRELIMINARY. Before we get too far ahead of ourselves, let's follow the steps in their chronological order. In case you haven't read this month's Editorial, the pickup cab belongs to R & C and is about to undergo one of many planned alterations. Immediately after the top chopping, the body will be mounted on a '41 Chevy chassis with an Olds V8 with HydraMatic for the propelling force. Progress reports will be given every so often as the project approaches completion.

ROD AND CUSTOM, May, 1954



The cab assembly was complete when delivered to Sam's Auto Body. Before any work was done all such parts as would interfere with the chopping operation were removed. The glass, above, was removed as was upholstery, seat, etc. $3\frac{1}{2}$ inches will be extent of the chop job.



The rearward slant of the windshield post is evident in this photo. Picture at right was cut to demonstrate the problem which can be overcome by lengthening the turret top panel.

Everything that conceivably could interfere with the cutting operation was removed and carefully stored away. Doors are to be left on body to aid realigning the top structure.



In the offing are sectioning, grille designing, and a host of other body modifications with a good many engine alterations thrown in for good measure. Whether you're a Rod fan or a Custom lover you won't want to miss the reports on this job. If you have any pet ideas you would like to see incorporated into R & C's guinea pig, drop us a note and if your suggestions are adaptable they will be carried out during the restyling.

The cab, ordered as a complete assembly from Chevrolet Parts Division of GM, was delivered to body man Sam Gates, at 1271 East Green Street in Pasadena, Calif., with orders for it to be chopped — correctly. The initial step, of course, was the uncrating of the body, after which Sam went over, under and around the 725 lb. item to get a general idea of its construction features.

Naturally, before any cutting took place, the body was stripped of all items which could conceivably interfere with the work. All of the glass was removed and stored in a safe place as were the door glass channels, window moldings, interior upholstering, the seat and many various and assundry things too numerous to mention.

CAB CONSTRUCTION. The Chevy truck cab, chosen for its simplicity of construction but similarity to passenger car design, is built as a one piece unit. The floor, cowl, turret top and rear body panels are spot and acetylene welded into a single, rigid body to afford maximum strength and, at the same time, ease of assembly. Being thus joined, there is no bolting or unscrewing to be done. Panels to be separated must be chiseled or cut apart with a torch, hack saw or channel cutter. Beneath the floor, behind the seat, above the headliner and on both sides of the cowl there are welded braces which must be temporarily removed. Naturally, many of these brackets do not need to be relocated now since the top alone is to receive reworking at this time. Nevertheless, they are there and will be cut into at a later date when it comes time for further alterations.

The area inside the cab, above and behind the seat, is double walled. That is, a steel panel extends from the roof to a point below the rear window, and from rear door post to rear door post. This panel is spotwelded into position along each of its four edges as well as around the rear window opening. To cut the top, a portion of this inner panel must be removed and later replaced.

PREPARATION. Interior headroom is sufficient to allow a reduction of $3\frac{1}{2}$ inches but, as we shall see, this does not call for removal of a $3\frac{1}{2}$ inch section of metal from the upright windshield posts. Although the Chevy cab will allow a chop of $3\frac{1}{2}$ inches, the rear window opening cannot be reduced this much without cutting rearward vision below the limit which we have deemed ad-

visable. Therefore, a method must be worked out to eliminate only $1\frac{1}{4}$ inches from the back glass but the rear of the cab must still be lowered the $3\frac{1}{2}$ inches under discussion.

Fortunately, the areas immediately above and below the glass opening are reasonably vertical and free from any compound curves. Thus, we must decide whether to remove the strip of metal from above the window or below it and, at the same time, and with a minimum of work, take another $1\frac{1}{4}$ inches from the window. The tentative chalk lines on the body show where it was finally decided to make the important cuts.

As stated above, the windshield posts slant rearward so it may be seen that when a section of metal is removed from them the top will no longer fit the lower portion of the body. Rather than slant the posts at a greater rearward angle, which would destroy the basic lines of the body, exactly what we are attempting to retain as much as possible, we must "stretch" the top. By "stretch" we do not mean that in the strictest sense of the word. Stretching of metal is only possible under extreme pressures with which, of course, we are not equipped. What we do mean is that the top must be made longer and in our case this is only possible by adding a strip of metal at some point across the width of the top itself.

Adding this strip of metal will require welding and, as you no doubt know, welding causes metal distorting to such a degree that to try and join the added strip across the center of the top would require so much extra work that it can truly be said to be impractical. Therefore, the addition can only be added to either the extreme front or the extreme rear of the top itself. At either of these locations the top is well braced and, furthermore, contains strength adding compound curves. Thus, the addition could be made with heat distortion held at a minimum. A close examination of the cab showed that the piece could be more easily added at the rear of the top rather than above the windshield. Another problem arose, though, when it came time to mark the body for cutting. Since the cut is to be made as near the rear of the top as possible, a jog is necessary to bring the cut down to the door openings. If the cut was made straight across from door opening to door opening we would run into the flat portion of the turret panel which, as has been discussed, would give us heat distortion at a maximum when the time came for inserting the extra strip of metal.

Only after much calculating will the rough drawn lines be replaced with those made by a pair of accurate dividers. Accuracy plays an important role in customizing and helps keep metal work to a minimum.

If $3\frac{1}{2}$ inches of metal were removed from the windshield posts the front of the top

would drop less than this amount since the posts are set on an angle. Therefore, more than this amount will have to be cut out. The exact amount to be removed was determined as described in these steps:

MARKING FOR CUTS. A piece of mask-



First to receive marking are the forward posts. Right photo shows marks being transferred to

ing tape with two marks precisely $3\frac{1}{2}$ inches apart was suspended vertically at the forward door post. A small level, similar to those used by carpenters and masons, was set horizontally in line with the upper mark on the tape. A line is carefully scribed at the point where the level touches the post. Dropping



Vertical tape has marks $3\frac{1}{2}$ inches apart, left, door post, distance apart here is $3\frac{3}{4}$ inches.

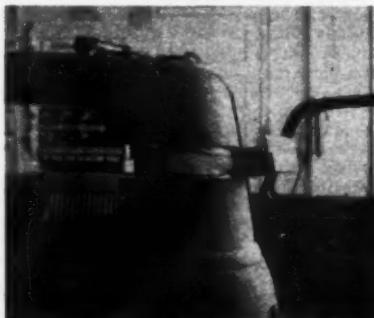


Tentative marks for cutting chalked on body. Shaded areas represent sections to be removed. Chalking was followed by accurately measured lines scribed on cab with a pair of dividers.



Reaching the cutting stage, forward posts are hock sawed. Careful work eliminates needless metal reshaping. All modifications will also be followed in forthcoming issues of R & C.

Rear body panel was carefully cut with an air chisel, shown here on cab roof. Inner support panel was burned through with a cutting torch. Note bottom of rear window removed entirely.



Rear portion of top is temporarily replaced to show height difference amounting to $3\frac{1}{2}$ inches.





3 1/8 inch section being hack sawed from windshield post prior to refitting turret panel.

Top has been dropped required amount and is ready for final welding. Note only upper part of doors were severed, post stubs will allow alignment check during refitting operation.

down to the lower mark, $3\frac{1}{2}$ inches below, the operation is repeated. Thus, though the marks are $3\frac{1}{2}$ vertical inches apart, they are $3\frac{1}{8}$ inches apart if measured along the slant of the posts. (See photo) The lines were then extended into the windshield posts.

Obviously, the two cuts on each post must be parallel in order for the two halves to realign. The angle of the cuts matters little. Our posts were cut horizontally with a hack saw handled carefully to do a neat job.

Since the rear of the cab is close to being vertical, parallel lines were scribed from a point at the rear of the body posts horizontally around to the rear window. The vertical location chosen was a point midway between the sill and the top of the door openings.

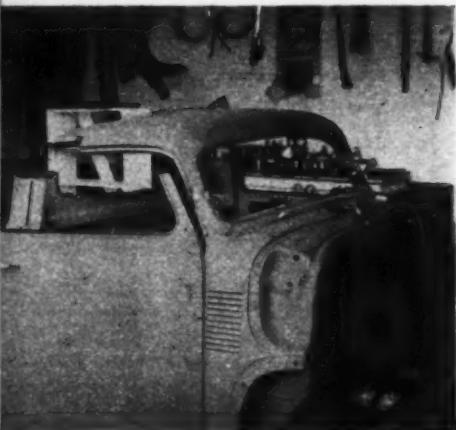
This aimed the cuts directly at the rear window but we must remember that the glass is not to be reduced as much as the height of the top. The photos show where the cuts were to be made and the shaded areas represent those to be removed.

CUTTING. Each rear body post was hack sawed to eliminate realignment troubles but the metal panels themselves were cut with an air operated chisel. When cutting was complete the top of the cab was removed from the body and laid aside. The rear door posts were carefully scribed with the dividers and also hack sawed like those in front.

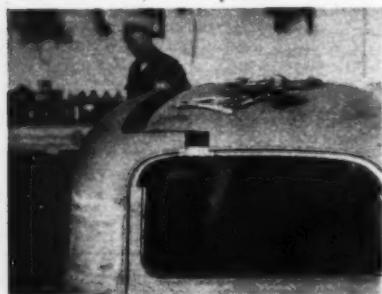
The line across the width of the top, which must be cut to allow for the addition of the metal strip as explained previously, was carefully chiseled. The supporting steel framework along the inside edges of the top was sawed, again to eliminate realignment problems. All other posts and structural members were similarly sawed.

REPOSITIONED. The forward portion of the top was clamped in its new position and temporarily tack welded. When replacing the rear of the top a problem arose which, though not unforeseen, was originally sidestepped to be thought out at this time. When viewed from the rear, the sides of the cab top slant slightly toward each other. Like the windshield posts, realignment would not be possible without a little stretching here and there. The difference in width of the upper and lower sections of the rear of the top was determined to be 1 inch, the upper portion was halved and widened accordingly. The cut was made through the center of the window opening. With the window being a full inch wider than it was originally, it was also necessary to widen the lower portion of the glass opening which was completely removed. The halves were all temporarily reunited and tacked to the lower portion of the body.

The pickup took on an entirely new look when we stepped back to view the results of all this measuring and cutting. By the simple expedient of removing a few inches of metal



Section added to lengthen top frame was taken from piece cut from vertical portion of frame.



here and there the rather stout appearing cab had taken on a longer, sleeker look. Now we're getting somewhere — but the hard work is yet to come! Listen to this:

A good many body men from Maine to Calif., will throw up their hands in horror at the thought of lengthening the top. They will claim to be able to chop the top on such a body in half the time — by leaning the windshield posts back. But no! You readers asked to be shown the correct way to chop a top, so here it is.

Like the top itself, its inner supporting members must be lengthened. This was done by extending the existing longitudinal members with pieces cut from the vertical segments of the same members. Cut to the proper length, they were tack welded in place. The obvious sag in the turret top was eliminated with a body jack and the steel supports welded solidly. The top was now nearly ready to receive its metal insert.

Prior to installing the top insert, the windshield posts and the rear body panel were joined permanently to prevent them from being pulled out of position when work was shifted to the top insert. Finish metal work was not yet necessary so the roughly welded areas were overlooked for the time being.

A final alignment check was made by welding the upper door posts together. Notice that the doors had been left on the body to insure a perfect fit. Naturally, since the top had been lengthened, the upper portions of the doors had to be identically altered. With the U shaped door frames severed from the doors themselves, it was a simple matter to again saw each U in half. The 3 inch section that had been removed from the rear door post during the chopping operation was unearthed and trimmed to fit between the two halves of the upper door frame. (See photo.) The three segments were tacked in place and the units temporarily welded to the doors. After alignment, the joints were welded permanently and the finish metal work was all that remained to be done.

At this rather precarious point we must take our leave of R & C's rolling laboratory, or guinea pig as we prefer to call it, but we will return next month with Part II of this series. Next month will see the top completely finished and primed — final painting will follow after all body modifications have been concluded. Within a short time the body will be united to the frame for the first time, but since this operation requires special work, it will be covered lightly since it could be of no particular interest to the reader.

The next major project on the agenda will be sectioning — as it should be correctly done, but seldom is. This will follow soon.

Body man Gates, right, and R & C Editor discuss modifications to '54 Chevy truck cab prior to uncrating of brand new body. Finished custom will have '41 Chevy chassis, '50 Olds engine.

ROD AND CUSTOM, May, 1954



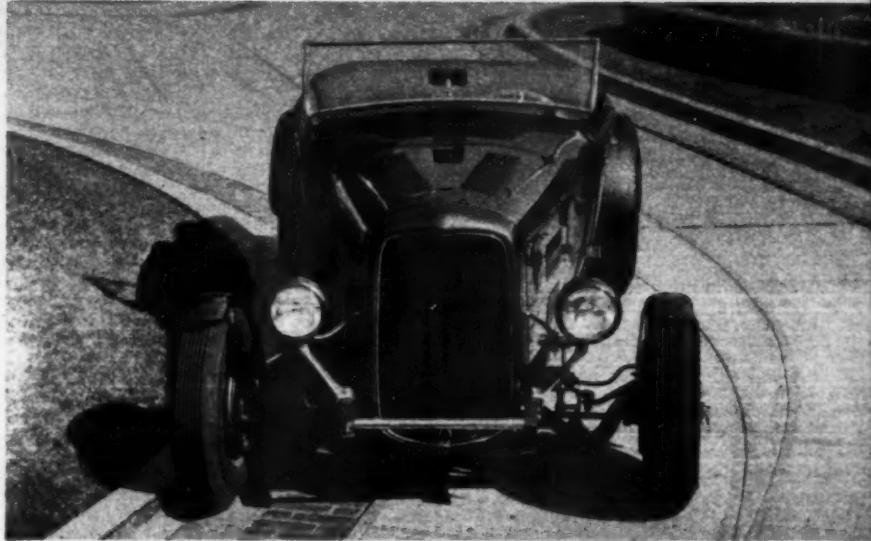
Due to angle of top sides, upper part of top and lower portion of some misaligned by 1 inch.

Right door after refitting upper posts. Like top itself, door frame had to be lengthened by adding the piece cut from vertical portion.





Photo by Peck



***Small displacement
but super-tuned***

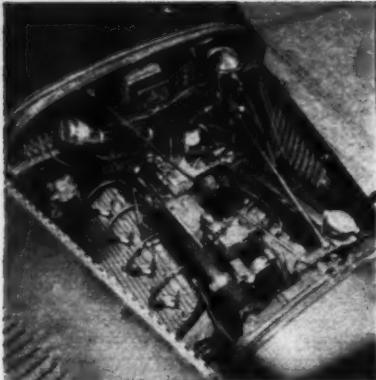
INDIANAPOLIS BRED

STREET ROADSTER

BACK IN the good old days of auto racing two men used to ride in the cars during the Indianapolis "500" event. One of them, naturally, was the driver while the other was known as a riding mechanic. His job was to watch the various dials and gauges, keep a sharp eye on the tires and to look for any sign of trouble. Often times a car would break down in the back stretch, sometimes almost a mile from the pit area. When this occurred and the mechanic couldn't repair the fault with such tools as he happened to have with him, he was dispatched to the pits far across the infield. The man selected for the job as rider was generally the head mechanic of a car's specialized crew, a close friend of the car's driver and/or owner or he was a specialist in a particular line — tuneup, carburetion, etc. These men took all the

chances that the driver took — and sometimes more. They were the unsung heroes of auto racing as it was staged 30 or 40 years ago.

Wally Graner's father was one of these early greats of the riding mechanic profession. He rode in several Indianapolis events as well as at countless fair grounds and smaller dirt tracks where events were often held. He was a tuneup specialist of the first degree. He stated, years ago, that there was no substitute for cubic inches but he added that many a small super-tuned engined car could, and did, run away from a car having an engine with tremendous internal dimensions but which was not tuned to the Nth degree. Before Mr. Graner passed away, two years ago, he gave his speed tuning secrets to his son and, furthermore, left him almost priceless notebooks containing information



Small displacement engine is equipped with a Navarro manifold, $8\frac{1}{2}$ to 1 heads, homemade set of headers, light flywheel, Merc bore and stroke.

Rear of the Manderin Red roadster is dominated by Chevy taillights, close-mounted nerfing bar and lack of deck trim. Fenders are original, bobbed to fit lines of the rapid little rod.



about engines, their ailments and how to cure them. Notes that many people would give anything to read. This last, of course, is impossible since Wally prefers to keep his books to himself — and well he should.

When Wally made up his mind to build a street roadster he decided that he was going to have a small displacement engine that would more than hold its own against cars of considerably greater capacity. This he has succeeded in doing and by way of proof, his roadster, weighing in at 1900 lbs. even, recently turned an amazing 102 mph in the standing start quarter mile — on straight gasoline, no less. Not impressive, you say? Wally's engine boasts only 239 cubic inches — a '46 Ford block bored and stroked to Mercury size, ported and relieved and equipped with a dual Navarro manifold, a Harman and Collins cam of special grind, a pair of $8\frac{1}{2}$ -1 heads, an ignition by Meyers and a 22 lb. flywheel. Top speed of the car was clocked at 128 during an El Mirage dry lake meet — also on straight gasoline.

Wally found the frame rails in an L. A. junkyard and immediately proceeded to fill such holes as he did not plan on using. The roadster body came from a friend, Don Johnson, who knew the whereabouts of an amazingly dent-free, unusually clean '29 A. This was lugged to Wally's garage and mounted forthwith on the new-looking rails.

The rear end came from a '41 Ford now quietly reposing in a scrap heap. During the rebuilding process Wally removed the stock driveshaft and replaced it with one of chrome moly steel — and he has had no trouble from this department since. Final rear end ratio is 4.11 to 1. A stick shift gear box was decided upon since roadsters are designed to carry two people at the most and the floor lever discourages any tag-alongs. The box chosen was a '36 and in it were placed a set of 26 tooth Zephyr gears.

The front end assembly is comprised mainly of '32 parts with the axle being reshaped to provide a chassis drop of four inches. The brakes, and the inter-connected master cylinder and pedals, are from a '48 Ford.

Wheel coverings, required by California law, were handformed for the front wheels while the original rear fenders were bobbed, yet give coverage for the skins in the rear.

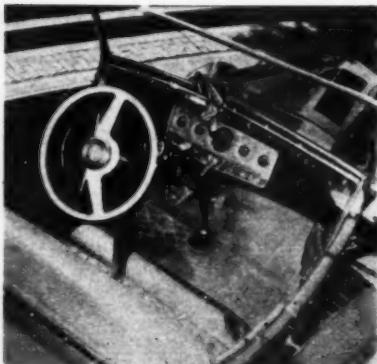
Speaking of wheels, the wheel centers are Ford but the 15" rims are Chrysler. Wally explained that 15" Ford wheels are at a premium in his area but he purchased those from a wrecked Chrysler for \$2 each.

Upon completion of the assembly and body work the car was sprayed Manderin Red with generous amounts of bronze toner added. Wally chose enamel in favor of lacquer since the former requires far less care for upkeep,

is more easily applied and lasts a great deal longer than the latter.

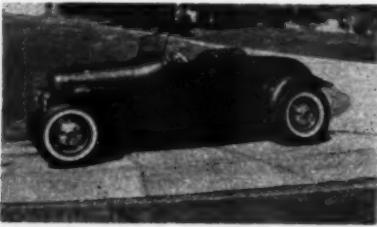
Being un-channelled, the cockpit affords maximum leg room. The seats and the door and kick panels are beige leather as installed by Tiptons Upholstery of Burbank. Facing the driver is a reversed Auburn dash. This is one feature that we haven't seen in a good many years. Unfortunately, Auburns are few and far between and those that remain are in the hands of classic enthusiasts. The dash of the Auburn, to make the installation, is removed in its entirety. The instrument panel is removed, then the dash itself is turned around and requires only a minimum of work to fit into the A. The inserted panel is then replaced from the wrong side. The result is a custom looking dash but one which is nearly stock, stock Auburn, that is.

Wally prides himself on his car, particularly on his highly tuned engine. This roadster is one of the quietest, smoothest running cars we've had the pleasure to come across.

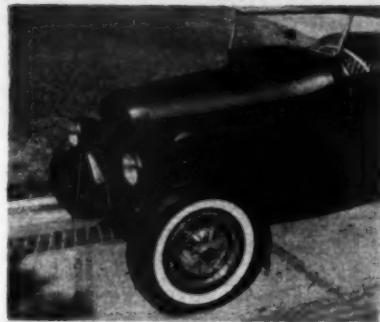


Cockpit is upholstered in beige leather and is faced by reversed Auburn dash and S W gauges. Old style floor shift discourages third rider.

Overall appearance of rod is clean and free of unneeded accessories. The white wall tires are set off by the simulated wire spoked wheels.



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The hood top is one piece featuring two rows of louvers. Top is secured by latches at the top of hood sides. Bulge in side is for generator.



Front fenders were shaped from sheet metal and bracketed to Ford brake backing plates. Grille shell was found by owner during trip to East. Taillights are Chevy truck, found in Minnesota.

Access to trunk-mounted tank is through this cap in rear body panel. Near it is pressure release valve and radio aerial. Trunk has an electrically operated solenoid for unlocking.



eye on Glasspar bodies for a long time before he seriously considered buying one. Being the owner of a Nash agency, Ricker pondered the plausibility of using Nash-built components for the chassis. To further complicate matters he convinced himself that the finished project must bear certain Nash styling traits — a difficult problem since Glasspar bodies are built to only one size and shape. At last he settled for a '51 Nash grille and asked the Glasspar people if this was easily adaptable to their frontal styling. The answer was, fortunately, yes, and Ricker found himself the proud owner of a Fibreglass body complete with the necessary fittings.

As soon as the body had been delivered to the agency Ricker began scouting around for chassis parts. His used car lot offered a possible solution. Someone had traded a wrecked Ford for a new Nash and the agency had eventually decided that there was little to be gained from rebuilding the old '41 model. Unhappy at the prospect of using Ford parts for his sports car-to-be, Ricker nevertheless arranged to have the junker disassembled.

Still not completed, body will soon be protected by a set of modified Henry J bumpers. Windshield is cut down Nash while the supporting brackets were supplied by Glasspar Co.

Still determined to have Nash parts in the car, Ricker ordered a Nash Healey engine. Work began in earnest and Ricker toiled long and hard mounting the suspension units onto the special frame he purchased from the Post Body Works in Orange, Calif., and transferring measurements from the body to chassis. Employees of the agency were a long time getting used to having such an industrious employer working among them, and it took them longer still to become accustomed to seeing disassembled *Ford* parts scattered around the establishment.

One day Ricker received an anonymous tip from the agency's suggestion box. It suggested the use of a particular part on the car instead of the one Ricker had planned. The unsigned note was obviously from an interested individual who was apparently a little dubious about joining in the building process but who, however, had some worth while ideas. Soon another note appeared, then they began arriving in a steady flow. At last Ricker decided to hold a special employees meeting to find out what was going on. This he did, and



suggested anyone interested in the project would be welcome to lend their talents — providing such donated time was *after* regular business hours. A few accepted the offer and within a short time many others followed suit until the agency was teeming with as much activity in the evening as it was during the regular working day.

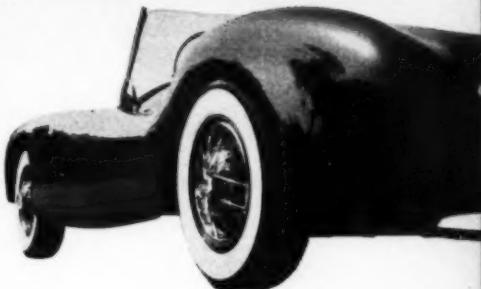
And so goes the story. Ricker and his helpers designed, built, welded, cut and installed all of the special components needed to unite the various segments of the car. As yet the back ordered engine had not arrived so Ricker sheepishly installed a Merc. — temporarily, you understand.

When the time came to mount the body, Ricker was as happy as a kid with a new toy. Four men easily lifted the body and carefully set it onto the chassis. As expected, everything aligned according to plan and all that remained now was to wind up the detail work — painting, upholstery, etc.

The painting was left up to the agency's paint department, naturally with the job being carefully supervised by the boss himself. The color chosen was Nash's popular red. John's Auto Tops of East Los Angeles was responsible for the building of the seats and all of the upholstery including a white cockpit tarpaulin. The upholstery is red and cream Naugahyde with a profusion of rolls and pleats for a distinctive touch.

The group-built car is a tribute to the men who worked on it and Ricker boastfully states that the project made for more amicable relations between his men and himself, thus setting an example which many other people under similar circumstances would do well to follow.

To protect the interior from weather damage, a white cockpit tarpaulin covers upholstery.



Reflections on body are indication of smooth finish of Nash red lacquer. Owner says that result was attainable only with the unselfish cooperation of many of his employees and lots of donated time after regular working hours. Simulated spoke wheels are backed with black.



Another obstacle to be overcome was the seat which had to be built from scratch. Result is upholstered in red and cream Naugahyde with a good many pleated and rolled, padded sections.



A special 3 stroke 180 crankshaft for a Ford V8. A destroker crank of this type would cost at least \$500.00.

One is for your
purpose,

which will it be?

STROKING VS. DE-STROKING

By Barney Navarre

STROKING AND de-stroking do not, as is too often supposed, serve the same purpose. The first increases displacement and the second, as its name suggests, decreases it. There are very concrete reasons for choosing either modification procedure. However, they are not interchangeable nor do they both increase horsepower.

Too often the statement is heard, "I want to de-stroke my engine so my car will go faster." Would Farmer Jones hitch a Shetland Pony to his plow to turn the South 40 a bit faster? Unless Farmer Jones has a rare breed of Shetlands that none of us have ever seen, you can bet that he wouldn't attempt anything so foolish. He'd use a big horse that is more powerful, so why not do the same thing for your automobile?

If you want more power — make your engine bigger. There is nothing that will make a greater difference in performance than an increase of displacement. Check the sizes, displacement-wise, of America's top performance automobiles: Cadillac, Oldsmobile, Lincoln, Chrysler and Hudson — they are all monsters. They are all over 300 cubic inches displacement, a specification that is responsible more for their performance than the location of the valves, whether they be "over" or "under".

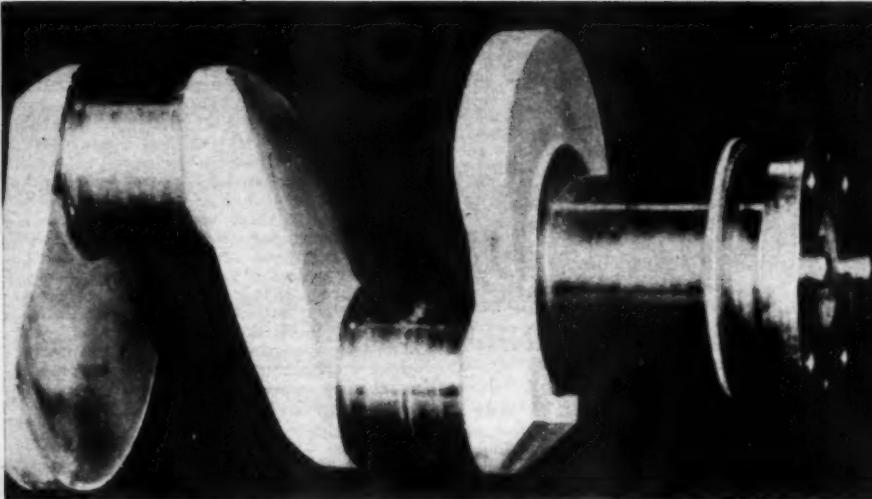
If you want your Ford to perform like

the monsters, make a monster out of it. Bore it out and stroke it so that its displacement will be as close to 300 cubic inches as possible. Boring is a well understood operation so we will spend all of our time explaining stroking and de-stroking. We must, of course, understand that of the two, stroking is the more expensive. This will be very apparent when the procedure is thoroughly studied.

When the decision is made to stroke a Ford engine, many factors must be considered before the job is undertaken. As per usual, the cost of the job is going to have a greater effect on the path chosen than any other factor. Next in importance, and directly related to the cost, is the equipment presently possessed. If you have an old 21 stud engine, there is little sense in adding an \$87.00, $\frac{3}{8}$ -inch stroker crank. A later model block will cost much less than the crank and required parts, so its displacement increasing potential will make it a worthwhile investment.

Due to the interchangeability of Ford and Mercury parts, many stroking possibilities exist. Amounts ranging from $\frac{1}{8}$ inch to $\frac{3}{8}$ inch can be had by remachining stock cranks of different vintages. A stroke increase of $\frac{1}{4}$ inch can be had by employing a 1949 through 1953 Mercury crank in its stock state. The $\frac{1}{4}$ inch increase in stroke is obtained by taking advantage of the .140 inch

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difference in crankpin diameter between 1942 and earlier Fords and Mercurys. All post war Fords and Mercs also have a crankpin diameter that is .140 inch larger than the early Fords.

In order to increase the stroke of a crankshaft, the crankpin centers must be moved further out from the centerline of the mains. This is accomplished by grinding more material off of the sides of the crankpins that face the mains. One-eighth of an inch more is ground from one side than from the other so the center line is moved up one-half the distance or $1/16$ of an inch. This $1/16$ inch distance causes the rods to be pushed $1/16$ inch higher and pulled $1/16$ inch lower, for a total increase in stroke of $\frac{1}{8}$ of an inch.

Instead of grinding .140 inch off of the underside to use up the rod diameter difference and gain an extra .015 inch stroke, only .125 inch is used and the other .015 inch is removed from the top side for cleanup. All cranks that have been stroked in this manner must be used in conjunction with early model rods that were fitted to 1939 through 1942 Fords. The same is true with 1949 through 1953 Mercury cranks that have been stroked $\frac{1}{8}$ of an inch; for it is with the use of these $\frac{1}{4}$ inch stroker cranks, that have been stroked $\frac{1}{8}$ of an inch, that we obtain our $\frac{3}{8}$ " strokers.

At no other time is balancing more necessary than when an engine has been stroked. Weight relationships are so drastically changed that resultant vibration would soon destroy the stroked engine if rebalancing was neglected. Actually any change in weight relationship in a V type engine calls for a complete rebalance job. Piston weight

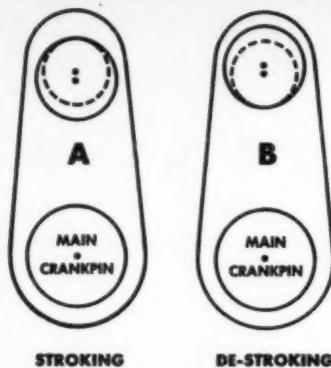
even has an effect on crankshaft balance in a V type, whereas in an inline engine all that is required is that their weights be identical.

De-stroking, though applied for different reasons, is accomplished in the same manner as stroking except for one minor, but important, difference. Instead of grinding the excess metal away from the *underside* of the crank pin, it is removed from the *topside*. This moves the crankpin centerline closer to the centerline of the mains. Thusly, the connecting rod's upward travel is shortened $1/16$ of an inch and the downward travel likewise.

Strokes of $3\frac{3}{8}$ ", $3\frac{1}{2}$ ", 4" and $4\frac{1}{8}$ " are all obtained with either stock or stroked cranks so de-stroking is not applied to obtain any of these. However, if a stroke shorter than the stock $3\frac{1}{4}$ inch is desired, de-stroking is necessary. Obviously, if the same process in reverse is used for de-stroking, a $3\frac{1}{8}$ inch stroke will be the minimum possible. In some cases Ford cranks have been de-stroked to 3 inches through the use of the metal spray process. Of course such a procedure weakens the crank considerably and makes it much more apt to break.

De-stroking is most often used to conform to the competition rules of a certain displacement class. We never de-stroke to make the family chariot go faster. Many times the process will be used in conjunction with overboring so that higher rpm's can be obtained with a given displacement. The shorter the stroke, the higher an engine can rev without disintegrating and the lower the friction at a given rpm.

If, for a given displacement class, you find



A

An increase of crankshaft stroke is obtained by moving the crankpin centers further from the mains. This can be done by grinding the metal away from the underside of the crankpin, or crank throw. (Dotted line in the illustration above indicates smaller diameter of crankpin after grinding.) The centerline will be moved up one half as far as the amount ground from the crankpin. i.e., $\frac{1}{8}$ " taken from side of throw toward main will result in moving the centerline $\frac{1}{16}$ " further out. Thus, pistons move $\frac{1}{16}$ " further up in cylinders and $\frac{1}{16}$ " further down, making the engine a $\frac{1}{8}$ " stroker.

B

De-stroking a crankshaft is done in much the same manner as stroking except that the metal removed from the crankpin must come from the side away from the main. This will move the centerline of the throw toward the main, hence a decrease in stroke. If $\frac{1}{8}$ " is removed and the crank is reground as dotted lines indicate, centerline will move down $\frac{1}{16}$ ". Thus, pistons will travel $\frac{1}{16}$ " short of original extremes of stroke making the engine a $\frac{1}{8}$ " de-stroker. De-stroking does not necessarily indicate an increase in horsepower but will assist engine to reach higher rpm's and decrease friction.

that it is possible to bore your block to a size that will give you a displacement that is eight cubic inches over the legal limit, you can employ a crankshaft that is de-stroked $\frac{1}{8}$ of an inch to make the engine conform to the rules. This occasion very seldom arises, but when it does a definite gain can be experienced by such a practice. Less friction will be produced by the shorter stroke and higher rpm will be possible so more horsepower will be developed with the same displacement.

Just because the foregoing illustration points out a condition where more horsepower can be developed by de-stroking, don't get

the idea that de-stroking is always going to increase horsepower. Any time that an engine is de-stroked and its displacement is reduced below the maximum allowable, a loss in power will be experienced. The old adage still holds true, "There is no substitute for cubic inches."

We'll probably be criticized again for dwelling on Ford products exclusively in our discussion about stroking and de-stroking, but it's just one of those things that can't be helped. No other manufacturer makes interchangeable parts like Ford, so stroking and de-stroking of other cars is a rather expensive process. If you do not have a Ford or Mercury, a change of stroke can only be brought about through the metal spray process or the production of a billet crank. A billet crank can cost over \$1000 so we'll just ignore that path to poverty and explain the metal spray process.

Metal spraying is merely used to bring the crankpin diameter up to standard size after it has been ground down to move its centerline. No one but Ford manufactures rods that are two different extremes in size so that one can fit the ground down crankpin to smaller rods. Metal spraying is a poor substitute but the only solution if you want to stroke or de-stroke a non-Ford engine. Contrary to popular belief, metal spraying is not a bonding process like welding. It does not produce a fusing of the sprayed portion to the crankshaft but in effect produces a sleeve that is wrapped around it. In order to keep this sleeve from slipping and rotating on the ground down crankpin, the crankpin must be roughed up with a finish resembling torn threads. It is this rough finish lying under all metal sprayed surfaces that weakens the crank.

When considering displacement changes, the whole problem (if you can afford it) is the same as that of our Farmer Jones. The only conclusion, then, is not to use a mechanical Shetland Pony to do the work of a mechanical plow horse.

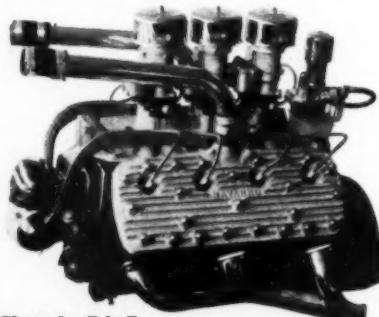
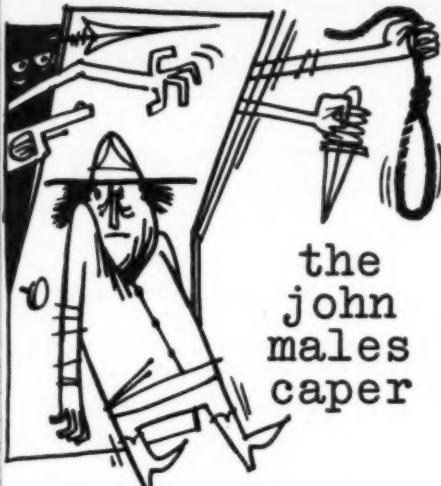


Photo by Trindell



the john males caper

Answers to an irate reader

A letter which appeared in the Correspondence section of our January issue has evoked so much criticism that an entire page is being set aside to air our readers views. It seems that John Males of Waco, Texas, takes a dim view of custom cars and emphatically stated so in his letter. The following are just a few of the countless answers we have received.

HE'D BETTER HIDE!

In answer to John Males, I'd advise him to take to the hills (if there are any in Texas) for I'm coming after him!

Bob Burns

Lima, Ohio

ONE SIDED

I think Mr. Males is a trifle one sided. Just leave your magazine the way it is, it's GREAT!

Bob Burn

Lima, Ohio

BAD SPELLER

Obviously John Males is an idiot. CUSTOM is spelled with a C, not with a K!

Ken McDannold

Santa Monica, Cal.

HOT RODS? NO!

I am sick of the none too few Rod fans who must stab a Custom lover in the back and twist the blade. It is seldom one reads a letter from a Custom fan heckling a Rod owner — perhaps because they are educated enough to realize it takes a good man to build a good Rod. But, if a few ignorant Rod fans — Attention John Males — want the lowdown

ROD AND CUSTOM, May, 1954

presented on their own crude level, here it is:

Everyone who has ever ridden in one of those unsprung, overpowered, single-seated, jack rabbit, spirited (?) roadsters will never forget his discomfort of cramped legs, hard seat, and rough ride in open air generally regardless of weather conditions at the time. On a percentage basis I beg all rod fans to dispute these facts.

I'm for more amicable relations between Rods and Customs enthusiasts.

William Dixon Syracuse, New York

ATTENTION ALL ROD OWNERS!

Ask any Rod owner if he can make a 7,000 mile trip through snow and rain, through mountainous and desert terrain without engine or tire trouble, or an incurable case of double pneumonia caused by open air travel. Naturally they'll have to answer NO!

Harry Prior Portland, Ore.

ROD HATER

... I wouldn't be caught dead in one of the ruddy things.

Al Lobsinger Ontario, Canada

WRITE HIS OWN

If Mr. (?) Males doesn't like R & C let him put out his own magazine. I, for one, wouldn't buy it but possibly some jerks would.

Bob Hocanson

TOO MUCH MUD

You can tell John Males for me that I would rather have a good old Custom any day than a face full of mud from some non-fendered Rod.

Eugene Halter Hudson, So. Dakota

NO MORE

If I hear another peep from John Males, I'll personally see to it that he is banned from looking at Customs. The best treatment would be to tie him in his junker, reverse the throttle return spring, remove the lining from the brake shoes, lock his crate in high gear and send him off on trip around the world. If, and when, he ever returns maybe we can talk some sense to him.

Bill Adams Los Angeles, Calif.

Copies of the above letters have been sent to John Males and he informs us that he is preparing an open letter in his defense. If some custom lover doesn't get to him first, he promises that we will hear from him by the next issue AND accompanying his reply will be a photo of his car. We have had a hint as to what his car looks like so if you are interested in the outcome of all this don't miss the June issue of ROD & CUSTOM.

**This Texas built
car presents a question**

SPORTS CAR

Text and Photos by Billy O. Boyles

A FIRST glance at the external appearance of this car would find it automatically catalogued in the "custom" car class. Delving a little deeper into the operating performance and handling ability, however, it becomes evident that many "sports" car qualities are also present.

Being in somewhat of a dilemma on this particular subject, the author feels unable to state which category would properly fit this Henry J. Therefore, by keeping in mind as we go along some of the basic prerequisites

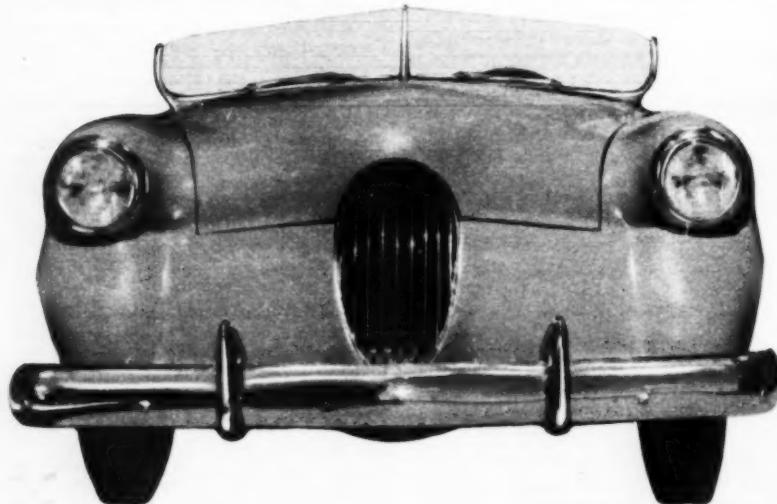
Few people would point out this car as being a Henry J. Would you? Body was sectioned 5" and the top was removed completely. The windshield is surrounded by a '37 Ford frame. The grille bars are copper tubing, chrome plated. Color of the restyled car is a medium blue.

for a sports car — lightness, power, exceptional handling qualities, and so on, as against a change of design features, not necessarily involving changes to suspension or underpinnings to make for a better handling car, you decide whether it's a sports car or a custom type of vehicle.

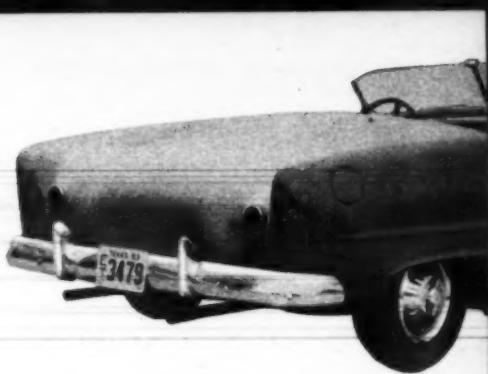
Lelton Partain, designer and builder of the car, has been reworking stock automobile bodies and engines for several years, including several Fords, a Studebaker, a 1937 Cord 810, and now the Henry J. Most of these customizing jobs have been radical departures from external design of the original bodies, with a great deal of attention paid to handling qualities and power response.

All of the work on the Henry J was done by Partain, except the upholstery and seat coverings on the inside.

Back about the first of this year, before



OR custom?



his aforementioned Cord was completely finished, Partain purchased a 1951 Henry J that was slightly the worse for wear, having been rolled over several times, and towed it back to his yard to await rebuilding.

The back yard in question also contained a workshop owned by Partain's father, who also builds customs. The shop has as complete an array of equipment as almost any modern body shop.

Armed with the proper equipment and the wrecked car, work began. The first thing to be done to the Henry J was the removal of nearly everything that would come off. The whole top and windshield was then cut off, the cowl moved back $16\frac{1}{2}$ inches, the quarter panels shortened $6\frac{1}{2}$ inches, and the doors 10 inches. The area between the back of the front seat and the back of the car was filled in with flat sheet stock with all the seams

welded and leaded for a smooth appearance.

An average of five inches was cut from the body all around to reduce the car to the height that Partain wanted. The window openings in the doors were welded up, and the windshield fastened to the reworked, smoothed, and rounded cowl by a frame from a '37 Ford. It was widened and reshaped to Partain's specifications. The windshield frame is chromed and removable for competition if Partain ever desires to race the car.

The body location on the frame has not been changed although it gives that impres-

A prodigious amount of planning and hard work went into this car to make it the show piece that it is. Both cowl and engine were moved back $16\frac{1}{2}$ inches and front fenders lengthened some amount. Top of cowl is less than 36 inches high. Handling was improved by the weight relocation.

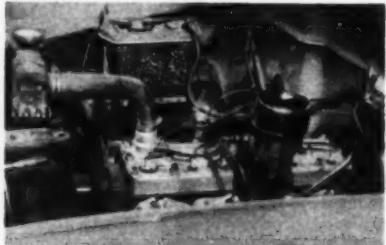


sion. The alteration of the various body components gives that effect.

The hood is the same length that it was originally, the front fenders have had $16\frac{1}{2}$ inches of metal added between the wheel openings and the doors to make up the distance that the cowl was moved rearward.

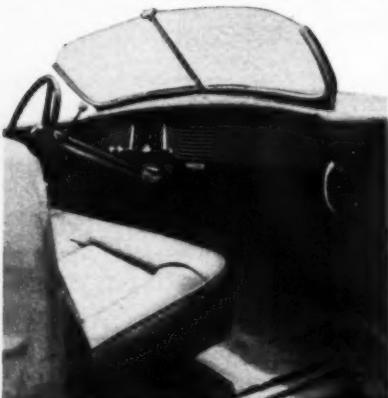
The frontal area of the car has been drastically reduced. The fenders and grille on the stock Henry J curve under, on this car they curve outward. The grille was hand formed from $\frac{1}{4}$ " copper tubing which was chromed after the proper shaping.

The body as a whole represents a smooth reworking of lines and curves, and any characteristics of the Henry J body that remain are favorably enhanced by the new styling. The wheel wells remain stock, as well as the basic fender angle and contour, from the front wheel openings back.



The nearly stock Henry J 6 looks quite peaceful here, but with low weight of car its go is exceptional. Engine modifications include increased compression ratio and dual headers.

The dash has been left nearly stock but its uncluttered look carries out the theme of the car as a whole. Upholstery is red leather. The steering wheel is '40 Ford, while shift is '41.



28

The bumpers are stock, and the license plate is mounted in the center of the rear bumper. The dash and instruments are stock with the uncluttered and plain dash making a pleasing appearance in conjunction with the neat look of the rest of the car.

The upholstery is red leather, with both seat and seat back rolled around the seating area.

The engine was moved rearward the same distance as the cowl, $16\frac{1}{2}$ inches, and so were the frame crossmembers to facilitate installation. The car was lowered three inches all around, by blocks in the rear and by cutting the front springs.

The transmission is stock Henry J, the rear end ratio is 4.11 to 1. The driveshaft was shortened by $16\frac{1}{2}$ inches and new engine mounts were necessarily fabricated.

A leaf was added to each rear spring to give stiffer riding qualities — a sports car feature — but the front end remains the same except, as stated previously, for the three inch lowering operation.

The weight removed during the rebuilding process, plus the lowering of the center of gravity give this car handling characteristics it never before possessed, even with its stock front suspension. Roll is not excessive on curves and the 100 inch wheelbase car sticks to the road like the glue on a misplaced postage stamp. As an example, Partain went for a drive the other day and, on impulse, took a right angle turn at 40 mph. Nothing happened. The stamp stuck!

Another strict adherence to sports car specifications was in the steering department. The ratio has been reduced to 3 turns lock to lock in the best of sports car tradition. This was accomplished by using a Ford Pittman arm and using a stock Henry J spindle arm. The increased Pittman arm length provides the quick ratio.

The brakes on the car remain stock excepting the vented hub caps to provide a cooling blast of air. The tires are all 5.50x15.

The engine is virtually a stock Henry J 6. The only exceptions being .050" milled from the head and exhaust headers. Partain built his own mufflers from air vent tubes which he filled with steel wool packing. He ordered a dual intake manifold some time ago but at this writing the eagerly awaited package had not yet arrived.

Partain says that if he keeps the Henry J engine he plans to give it the full house treatment: boring, stroking, etc. However, he is also kicking around the idea of replacing the little 6 with something much more potent than the 6 could ever hope to be.

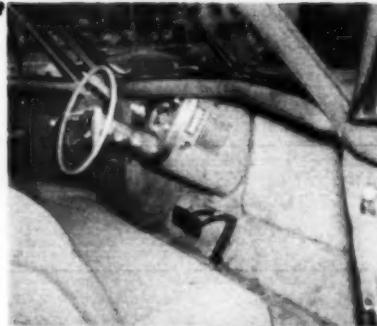
There are the facts, so now it's up to you. Is this a sports car or a custom? (Incidentally, the author has just convinced himself this is neither a sports car or a custom, it's a goodly portion of both!)

What\$it?

Our query this month is based on a partial photo of a car, not a shot of an entire car as in the past. There will be no hints this time, either, just the fact that the car is not a custom nor has it been altered or restyled in any way. From the interior photograph above, make a wild guess as to the make and let us know your decision. Send your card or letter to "What\$it?", c/o ROD & CUSTOM, 4949 Hollywood Blvd., Hollywood 27, California.

The rules governing this regular monthly contest were listed in the April issue but in case you missed them here is a run-down.

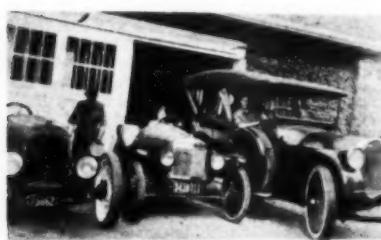
Letters pertaining to the "What\$it?" column should not be included in correspondence sent to the other departments in R & C. Write "What\$it?" on your card or envelope



so that your answer can be readily directed through the proper channels.

There will be five winners each month. They will be selected at random from among those bearing the correct answer. An early-dated postmark has no bearing on the decision since many subscribers receive their monthly copies before the newsstand buyers. All correct answers are kept in a separate file and, at the end of the allotted time, five letters are chosen in much the same way as numbers are drawn at a lottery — by an entirely unbiased person not connected in any way with Quinn Publications.

The deadline for answers to the "What\$it?" this month will be June 1st. The names of winners will be given in the August issue of R & C. Let's hear from you !



In conjunction with the first regular "What\$it?", we asked if any reader could unearth a photo of a car *customized* prior to 1921. To date, reader Robert Jones is the only one eligible to win a subscription in this category. His photo shows a reworked 1912 Stutz (left) and, in the center, a 1915 Model T rod. The Pierce Arrow on the right is stock. The T was built from touring car and was modified as much as possible. The headlights were electric and the car was

ROD AND CUSTOM, May, 1954

equipped with a chain-driven self starter. The photo was taken in Illinois along about the year of 1918 or 1919.

"THE WINNER"

Here are the names of the five lucky people who correctly guessed the identity of the "What\$it?" that appeared in the February issue. In case you were wondering just what kind of a car had been *customized* back in 1921, the correct answer is a '21 Hupmobile. To the many of you who incorrectly guessed it as either a Chandler or a Chalmers we can only say that you were apparently lead astray by the Hupmobile's close resemblance to both of these earlier automobile makes.

The five winners of a one years subscription to R & C are as follows: James Bezner, Gainesville, Texas; Dan Vorhees, Van Nuys, Calif.; Skip Nuevo, Menlo Park, Calif.; Mrs. W. F. Campbell, Dixon, Calif.; and Elwyn Carlton, Coachella, Calif.

It is unusual that so many correct answers are from in or near California. Come on, those of you in the Midwest and East, you can't let the West lead you like this !



An auxiliary fuel system provides the answers to a lot of problems

VERSATILE FUEL SYSTEM

By Dean Moon

VAPOUR LOCK. Plugged fuel lines. Flooding carburetor. Foreign matter in gas tank. Fuel pump inoperative. Leaking fuel lines or fittings. Out of gas. No fuel pressure! Ever been victimized by one or several of these too-common mishaps? If you have, you're not alone. If not, we can only say *watch out!* The law of averages says that you will experience these or similar difficulties if you are a normal driver.

Invariably, and always at the most inopportune times, one of these fuel system problems seems to occur. Say, for instance, that you just ran out of gas miles from nowhere. What is the first thing that enters your mind? "If I only had an extra gallon of gas," or "If I only had another gas tank." True? We'll bet these thoughts have run through your mind many times. Merely thinking such thoughts does little in getting you to a service station, but future occurrences are unlikely if you have a versatile fuel system.

At some time or another you have probably seen various pressurized fuel systems, auxiliary fuel tanks, booster fuel pumps and fuel purifying installations and wondered if such

modifications to normal passenger car design were really as advantageous as the enthusiast would lead you to believe. More than likely these applications were made to prevent any of the above mentioned mishaps from taking place. Aside from aiding trouble free driving, the various systems to follow have, as their chief objective, to furnish the engine the fuel it needs when it needs it.

The use of two fuel tanks, or two entirely independent fuel systems, must be accompanied by a junction fitting which will provide the selection of either system at a moment's notice. This junction fitting, correctly termed a selector valve, should have three or four openings, or outlets. It should also operate on a "quick shut off" principle. Thus, either system can be brought to full operating position by a one-half, or even a one-quarter, turn of the valve handle. Screw type selector valves (of the type used on faucets around the home) should not be used since considerable time is required to bring the handle to full on, or full off, position. A quick flick of the fingers will cut off one fuel system and bring the other to full operation.

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The fuel flow which was shut off is merely dead-ended in the selector valve and no priming is necessary should the operator desire to switch back to the original tank.

The third outlet of a selector valve with three openings is left open, or unrestricted, at all times and from this a line can be run to the carburetor or, in the case of two or more carburetors, to a fuel block which equally distributes the fuel to each carburetor.

In case your primary interest is in merely the simple addition of an auxiliary tank, Diagram #1 should answer whatever problems you might have. As the illustration shows, both tanks are connected to the selector valve. The third opening in the valve leads to the stock fuel pump and from there to the carburetor. This is the simplest dual tank installation and while it has many advantages, it has a few drawbacks. Primarily, the stock fuel pump is being used to draw fuel from either tank. Should the pump go bad, the addition of the extra tank would be of little value. Systems like this are widely used on trucks, taxis and many fleet cars where the carrying of a reserve fuel supply is the sole purpose of the installation.

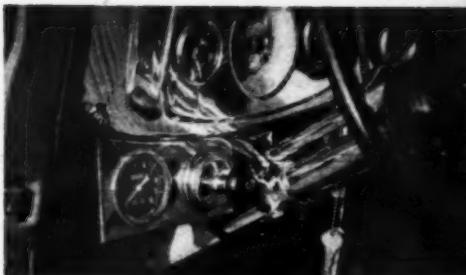
Diagram #2 illustrates how to incorporate an auxiliary electric fuel pump to the added tank. In this case, should the stock pump suddenly cease to function, the second system can be brought into play and the engine will continue to receive its needed supply of fuel. In this instance, the third outlet of the selector valve leads directly to the carburetor, or to the fuel block, as the case may be. It may be seen that fuel will come from the stock tank, through the lines to the stock fuel pump, through the selector valve and thence to the engine. From the auxiliary tank, fuel will flow through the electric pump, then to the engine, also via the selector valve.

Should the driver desire to switch to the auxiliary fuel system, even though the main system is still in operating condition, the engine, naturally, will continue to run, thus the stock fuel pump, though it isn't being used, will operate as usual. Fortunately, diaphragm type fuel pumps (those ordinarily used on late model passenger cars) have a pressure release feature built into them. The pump can, and will, continue to function with fuel in the lines even though the fuel is not flowing through the lines. As soon as the selector valve is returned to the main tank system the pump will immediately continue feeding fuel to the engine as it is required. However, though the pressure release feature will not cause the pump to "burst" as many enthusiasts may fear, it is not good to prolong its inoperation too long.

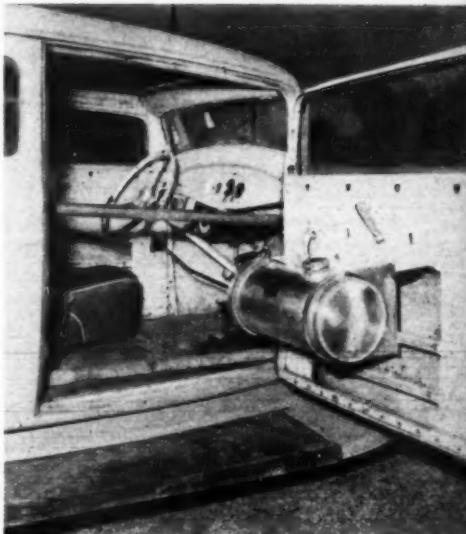
A fuel block should be incorporated into the system should the engine be equipped

(Continued on Page 64)

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Pressure pump and gauge are mounted on special chromed panel within reach of coupe driver.



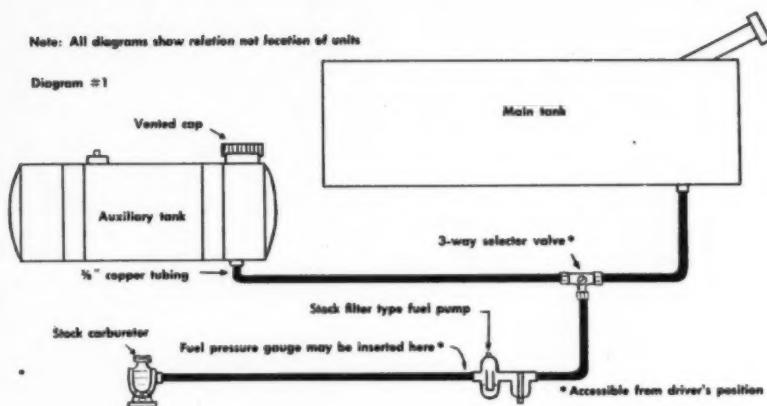
This competition sedan uses the right door as a mounting place for its auxiliary fuel tank.

Coupe, gutted for drag racing, has fuel tank and shutoff valve within easy reach of driver.



Note: All diagrams show relation not location of units

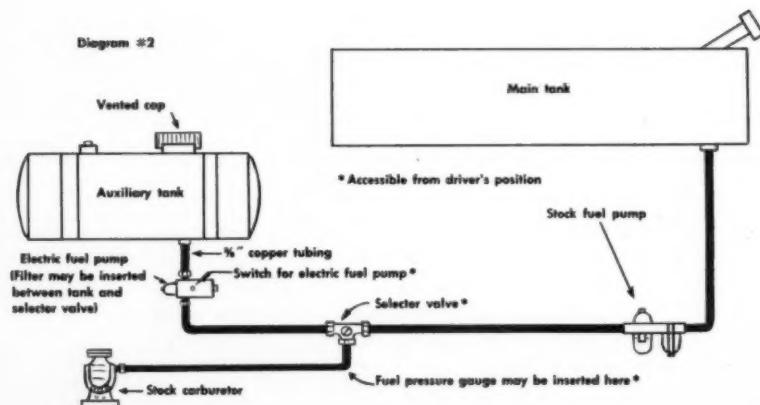
Diagram #1



The simple auxiliary fuel system uses stock fuel pump. Thus, should the pump break down, fuel from neither tank can be brought to the engine. Pressure gauge can be added if desired.

Addition of secondary, electric fuel pump assures engine supply of fuel should stock pump fail. Diagram illustrates only proper relation of the component parts, not their location.

Diagram #2



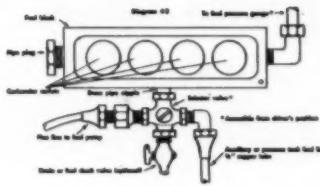
with more than one carburetor. This insures an equal flow of fuel to each carburetor. To make a balanced installation, as it were, the fuel block and the selector valve should be teamed up as is demonstrated in Figure #3. Fuel blocks do not normally have an added outlet in their bases so a hole must be drilled and tapped for the insertion of a fitting. The common sizes used in automotive work are either $\frac{3}{8}$ " or $\frac{1}{4}$ " pipe threaded openings. When assembling the two units in this manner, be certain that the actuating handle of the selector valve faces the opposite, or back, side of the fuel block. When the proper mounting location has been decided upon, a hole can be cut into the firewall to allow the valve handle to protrude through to the interior of the car. To make the valve easily actuated, a choke cable can be connected to it which will make your tank selection as easy as, say, turning off the ignition.

The most versatile dual tank system is shown in Diagram #4. Into one opening of a four-way selector valve, place a fuel line — the same line that originally ran from the stock fuel pump to the carburetor. Flex line can be used here to replace the copper or steel line if desired. By routing the line in this manner, the fuel will no longer go directly from the fuel pump to the carburetor, but from the pump to the selector valve to the fuel block, then to the carburetor. This will be referred to as the main line since it leads from the original, or main, tank. Into another opening in the selector valve the line from the auxiliary or secondary tank is placed. $\frac{3}{8}$ " diameter tubing is best used here so it will allow the passage of a greater amount of fuel since one object of the second tank is to supply the engine with fuel during competition events. By comparison, stock fuel lines are generally either $\frac{1}{4}$ " or $5/16$ " steel or copper tubing material.

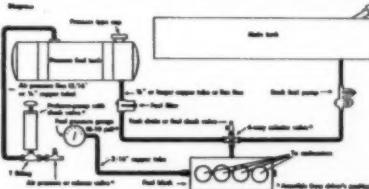
With the use of special fuels such as those compounded strictly for competition, it is not a good idea to subject a stock fuel pump to the acids that some of these fuels contain. The diaphragm will soon have to be replaced and, within a short time, another replacing will be necessary all over again. The majority of electric fuel pumps are similarly equipped with diaphragms and are also subject to breakdown. A pressure system should be installed to overcome the shortcomings of the diaphragm-equipped fuel pumps.

Generally speaking, the pressurized system includes a vent-less fuel tank equipped with an airtight cap containing a safety release activated only by a predetermined amount of pressure, and a pump similar to those used for inducing air into bicycle tires. The pump must also contain a check valve so the system will hold the air that is pumped into it. Pressure pumps are available in all sizes and shapes but their location should be the same

(Continued on Page 64)



Arrangement of components as illustrated in the drawing allows use of dual tanks, one for normal street driving and an auxiliary system for the use of especially compounded racing fuels.



An independent, pressurized fuel system can be combined with the stock system. The auxiliary tank can be used for normal gasoline or for racing fuels, depending upon owner's desires.

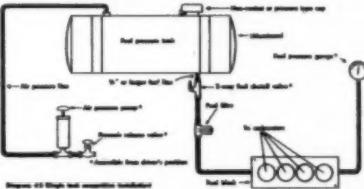


Illustration shows replacement of stock fuel system by one used solely for competition. Difficulties should never be experienced if installed according to the correct procedure.

Competition fuel tank, shutoff valve and the pressure pump are all mounted as a single unit.



...forever a favorite

THE PERENNIAL

T

JUST AS long as there are street and competition roadsters running around, the Model T will continue to provide the body for such machines. At least, if past popularity is any indication, this will probably hold true — as long as the demand for bodies is below the available supply. A few enthusiasts, in a concerted effort to be different, have turned to Dodge, Studebaker and similar makes from the 1920 through 1927 era but these are decidedly in the minority. The old Ford remains the favorite and will undoubtedly continue to do so for a long time.

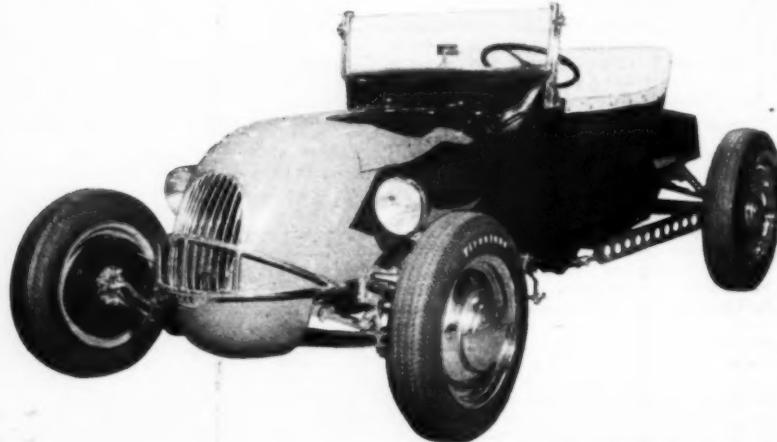
Present talk concerning material for car bodies hints strongly of the advantages of Fiberglass. This tough material is light in weight, easily formed and extremely durable. Should the T roadster body eventually become just a memory or exist only in a few scattered antique collections, it is quite possible that enthusiasts will continue to favor

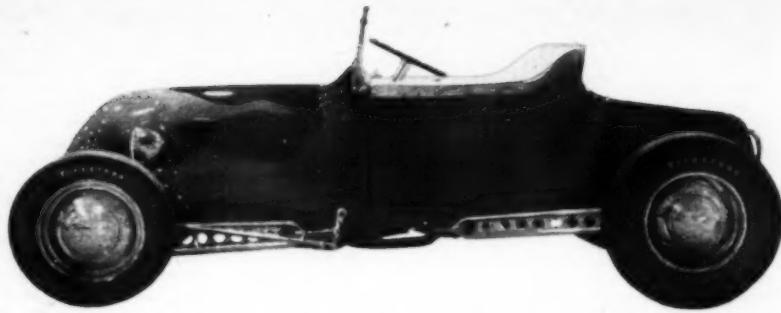
the T design, substituting Fiberglass for steel. It appears that a roadster just isn't a roadster unless it suggests Ford's model T days in one way or another.

Here is a fine example of a T bodied street roadster, boasting loudly of its thirty years existence. Back in 1924 this car was just one of literally millions that were identical in every respect. However, though many of these cars were duly altered during the years to follow, this one received a good many modifications even before 1925 had rolled around. As a matter of fact, this car spent so much of its time in the shop that it was not first registered until 1929.

The car passed unchanged through many hands during the following twenty years or thereabouts, so it wasn't until 1948 that it took its present form. It was Joe D'Angelo of San Jose, Calif., that relieved the body of its rather feeble underpinnings and replaced them with the equipment from one of the

Nose section, aluminum, was hand shaped from a single sheet by the owner, a steel fabricator. Grille was made up from small diameter tubing and strap iron. Nerfing bar, axle and related front suspension parts have been chrome plated. The hydraulic brakes are from a junked '41 Ford.





Chester Carter's '24 T bodied street roadster, featuring black lacquer paint with red flames, boasts a mighty Merc engine capable of doing 104 mph in the standing start, quarter mile.

Perforated webbing connects dual radius rods that end in a tie rod fitting below steering. Generous amounts of chrome add to appearance. Dzeus fasteners secure hood to cowl and shell.



Photos by Moon

more reliable old '34's. Items from this Ford constitute the frame, the front axle and spindles, the transmission, the steering gear and the majority of the rear axle assembly. Lacking in the latter department is the rear end center section which was replaced with a quick change unit housing a final gear ratio of 3.48 to 1. Clearance for the center section was maintained by replacing the reasonably flat '34 spring with one of the high arch type borrowed from a retired Model A.

The four brakes and related master cylinder and pedal assembly were removed from a '41 Ford and assigned to duty on the roadster. The front shock absorbers are from the same '34 previously mentioned while those in the rear are tubular giving the lightweight rod a firm but comfortable ride.

The four wheels all have the same diameter of sixteen inches but the front tires are 5.00's while those that transmit the power to the road are 7.60's.

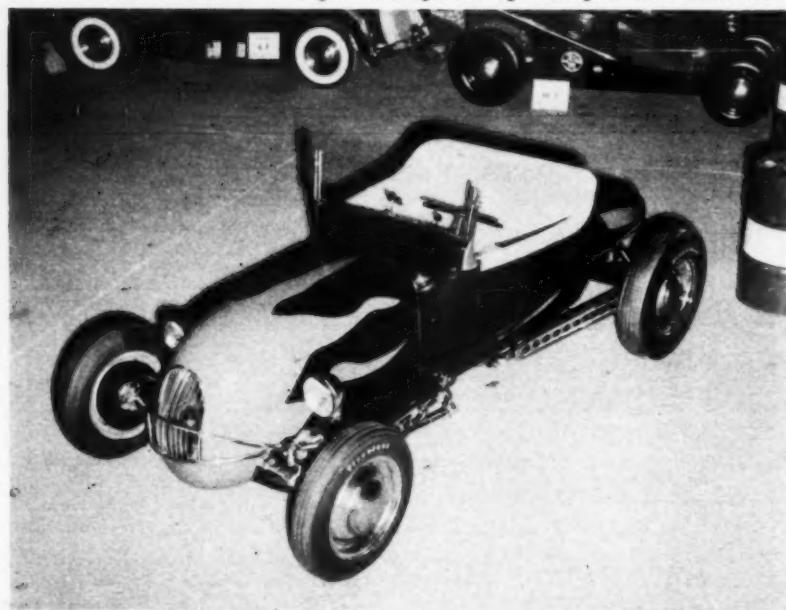
Beneath the flamed, one piece hood is a warmed over '46 Merc engine that provides the T with a hard-packed wallop. The stroke has been increased by $\frac{1}{8}$ of an inch and the bore has been enlarged by .030". Resulting displacement puts the mill near the 300 cubic

inch bracket — and you can feel every inch of it when the present owner, Chester Carter, mashes the throttle. A port and relieve job aided efficiency and the valves are actuated by a Potvin cam. Edelbrock 9-1 heads cap the cylinders and a manifold of the same make mounts four 97 carburetors. The flywheel has been chopped and faced with a heavy duty clutch, bringing slippage down to practically nothing. Ignition is through the courtesy of Harman and Collins coupled with a Mallory coil. Glass packed mufflers quiet the noise that blasts from the headers and, incidentally, it takes great amounts of sound for an engine to propell an 1875 pound car through the standing quarter mile at 104 mph. Estimated horsepower is 175 on gas.

Cooling is provided by a '29 A radiator with reworked upper and lower tanks for greater water capacity and with dual inlets and outlets for the V8 engine. The radiator is hidden beneath a beautiful nose section fabricated from a piece of aluminum.

The center dash panel is from an old Auburn Speedster and mounts the following Stewart Warner instruments: fuel pressure, ammeter, vacuum, tachometer, oil pressure and water temperature. To the right of the

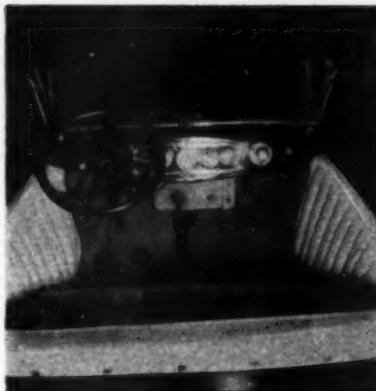
White leatherette upholstery and black and red paint job combine into one beautiful roadster. Small windshield is lower half of original T. Midget steering wheel gives driver added room.



panel is a hand pressure pump to supply fuel to the engine since the stock fuel pump has been removed in reworking.

The small steering wheel is of the type used on many midget racing cars. The fuel tank, in the trunk compartment, adds, when full, enough weight to the rear of the roadster to give it good handling characteristics and to keep tire slippage, under full acceleration, to a reasonable minimum.

Chester Carter purchased the car from the builder a little less than a year ago and since that time has spent many of his spare hours keeping the car in traditional show room condition, but he drives it daily to and from work. The black lacquered roadster with bright red flames is a familiar sight to the residents of San Jose. Though it has undergone a great change since the time it rolled from the assembly line over thirty years ago, the sight of the bomb still evokes many a fond memory from old-timers. True, the original headlights have been long since replaced, the old familiar putt-putt of the 4 cylinder engine is no longer there, and the high, thin $30'' \times 3\frac{1}{2}''$ tires have made way for more modern rubber. Still, the sight of the T with its pert little tail section, its phony left hand door and the height of the rear of the body bucket are enough to bring tears to the eyes of T enthusiasts the country over.



Cockpit features Auburn dash panel with array of Stewart Warner instruments. The small rear view mirror is Jaguar. Note fuel pressure pump. Non-channelled T body provides adequate space. The emergency brake is electrically operated.

Quick change center section and Model A spring have been added to '34 rear axle assembly. Dual exhausts extend beneath tail section & '41 Chevy taillights, protected by chromed nerf bar, flank license plate. Note tubular shocks.





Door handles, removed in 1945, caused many a stare from bystanders. Top, originally from a '40 Chevy coupe, was reshaped to conform to Ford lines. One of the first cars so treated, experiment proved to be entirely practical. White side walls are complimented by Cad hubs.

beating detroit to the punch

Ford convertible features a removable steel top

Photos by G. Barris

THREE COMES a time in everyone's life when they need a helping hand, particularly along the lines of their chosen profession. It is difficult for a person to just *read* all that is available about his future work, then go right out and start in at the top of the ladder. Generally, one must find a person already practicing the selected trade and serve an apprenticeship under his elder's watchful eye. This is necessarily true in many cases, certainly when it comes to restyling automobiles since there are no schools offering special courses in this field.

Back in the late '30's customizing was a little practiced art. True, there were a few professionals around if you could find one, but the average enthusiast could not take his car into just any body and fender shop for a simple hole-filling or for a seam-frenching. Northern California, in particular, offered little for auto enthusiasts — what was done in the way of custom work came from the backyard shop of Harry Westyguard in the capital city of Sacramento in California.

George Barris, after having been trained in the arts, suddenly decided that cars were the thing for him and started out to prove to the world that he could alter an auto's styling like it had never been done before.

George wandered into Westyguard's shop some fourteen years ago, picked up a hammer and a dolly and, while Westyguard stood dumbfounded, proceeded to fill the holes in

the deck lid of a customer's Ford. When the job reached completion (after, George admits, a certain amount of metal buckling and finger smashing) Harry stated that such a trait as filling holes in thin metal does not come naturally to anyone except in extreme cases so he took George under his wing with intentions of helping him up the ladder to success.

Fortunately for the customizing business, Harry's foresight and teachings made the Barris Brothers what they are today. (George taught the trade to his brother, Sam, at the end of World War II in a small shop in Los Angeles, California.)

Though he still practices the art of restyling in a small way, few people have ever heard of Harry Westyguard and fewer still are familiar with his work. George recently paid his home town a visit and remembering the person who actually made him what he is today, dropped around to pay his respects. Harry had moved to nearby Walnut Grove, Calif., but when George succeeded in finding him he was, quite appropriately, in the midst of converting an automobile.

At the same time, George took the accompanying photos which are of a '39 Ford Westyguard built back in early 1945.

Though at first glance this car does not appear as a radical custom in the sense that we know it today, the reader can well imagine the effect it had on the average enthusiast

ROD AND CUSTOM, May, 1954



Owner Bruce Glenn stands beside his jet black, '39 Ford hardtop convertible. Overall height has been reduced by ten inches, three inches by the chop job and by a seven inch chassis drop. Car has been almost entirely dechromed except for bumpers, grille and the window trimming.

Top, secured in front by original convertible latches and in the rear by trunk latches, fits the body perfectly. Separation is marked by a thin chrome bead to prevent paint chipping when top is removed or replaced. Note contour line just below door window level fades to nothing on the rear quarter panel. Trunk is frenched.



nine years ago when a filled hood and a planed deck lid were notably outstanding.

The first modification to the car was the long forgotten trick of setting in the rear license plate. (This practice, at least in the West, vanished from the scene during the war, and those that are seen today were probably actually done eight or nine years ago.) This operation is no simple matter. The size of the opening is determined by the size of the plate, after which a hole is cut into the metal allowing an inch or so additional material to be rolled inward giving the deck lid apparent thickness. A box must be fabricated to hold the plate, and its light, and the unit mounted to the inner side of the deck lid.

The grille was removed and one from an early Packard put in its place. This necessitated reshaping the front of the hood to accommodate the familiar top bar of the Packard grille in the treatment.

Every conceivable piece of exterior trim was stripped from the convertible and all of the exposed mounting holes filled. The seams between many of the adjoining body panels and between the fenders and the body were frenched, making the car virtually a one piece affair. To illustrate the thoroughness of the frenching treatment, notice that even

the deck lid has been welded shut. For those concerned over the lack of trunk access, storage space is available by entering the trunk from the car's interior.

An outstanding feature of the Ford is its removable steel top. The top itself originally provided protection for the occupants of some long forgotten '40 Chevy coupe. The Ford windshield was chopped three inches and the Chevy turret was trimmed accordingly to fit the lines of the rival product. The top is held in place above the windshield by the original Ford top clamps and in the rear by clamps similar to those used for securing steamer trunk lids when traveling.

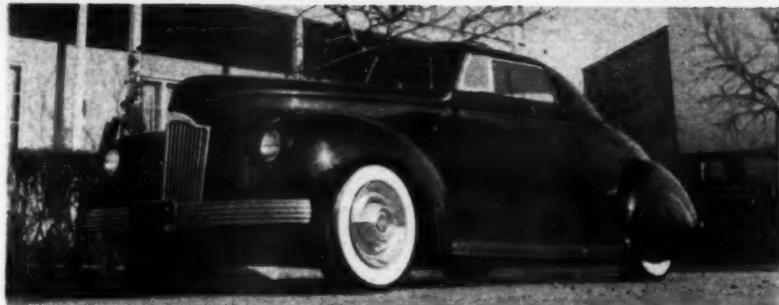
This car can also claim the distinction of being one of the earliest Fords to be equipped with solenoid operated doors. The outer actuating buttons are set into the lower edges of the running boards where they are easily operated by a touch of a toe.

Though the engine remains stock, it is tuned to perfection and shifting is now accomplished by a '41 Ford column-mounted unit. The steering wheel is from a '48 Ford.

The black lacquered '39 is in the same fine condition today as it was when first completed — proof of the outstanding workmanship that went into the car back in the days when customs were few and far between.

Set-in license plate and DeSoto bumpers are a hold over from the era during and just after, World War II. The club plaque shows membership in the Sacramento, Calif., "Thunderbolts".





The neatly inset rear license plate is illuminated by a bulb, hidden just above opening.



Having withstood the trial of eight years on the road, metal work is as good today as it was when originally completed. Color is black.

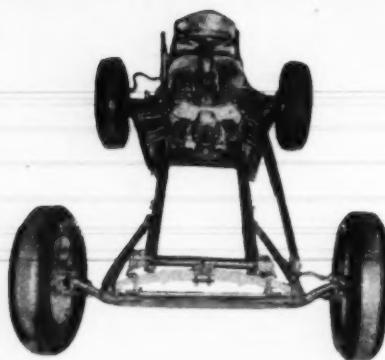
Tailpipes extend through fender beside '39 taillights. Gas door is from a '41 Ford, a treatment marking the custom as having been built at least seven or eight years earlier.

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Foot operated, door solenoid button is located for the convenience of package-laden driver.





Patent engine sits well to the rear of the aluminum frame for good balance ratio. The frontal area is extremely small. Used when car is draggin', hood has here been removed.

WRINKLED RAILS



Photos by Moon

No-Cal dragster features swing axles

By Lynn Wineland

THE LATEST item of Northern California ingenuity is the Red Jones Special, an 1100-pound acceleration machine constructed by LeBlanc's Speed Engineering located in Monte Vista, California.

Speed was the keynote behind this creation, from its construction time of *one week* to a run through the quarter which netted a time of no less than 126.67 mph.

The unique construction features frame rails of four-inch aluminum channel connected by chrome-moly tube crossmembers. The front end was gathered from a '40 Willys and uses a Ford spring. The Willys front wheels mount 6.00x16 Indy skins. At the rear of the car is what may well be its most outstanding feature. A swing axle, built entirely from Ford parts, was assembled by Gene LeBlanc and is sprung by torsion bars running parallel with the frame side members. The T-bar arms and the points of attachment to the axle housings are provided with extra holes for leverage adjustments. These units are available from LeBlanc.

Magnesium wheels are used at the rear to lessen the rotating weight and are fitted with 7.50 x 18 slicks for increased traction.

The rules of the Northern California Timing Association state that all cars must be equipped with a body. In order to comply, yet keep the weight down to a minimum, a body was built from waffled aluminum—an item used by building contractors for insulation purposes. The steering assembly is a Franklin center type.

The '41 Ford rear brakes are actuated by a hand operated master cylinder at the right side of the body near the fuel pressure pump.

Working forward from the rear end through a negligible driveshaft we come to a chromed Ford transmission. Then on to the clutch which is from a Model A truck which bolts to a later Ford flywheel that has been turned down by the builders to a button.

The 301 cubic inch 59 A block has been ported and relieved and is equipped with a Howard M-14 cam. The 3 7/16" Jahns pistons travel an additional $\frac{1}{8}$ " up and down in the holes, compressing the fuel mist from the four-jugger Weiand manifold into 8-l heads, also by Weiand. The fire is provided by a Harman and Collins magneto.

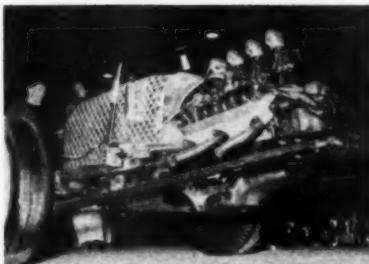
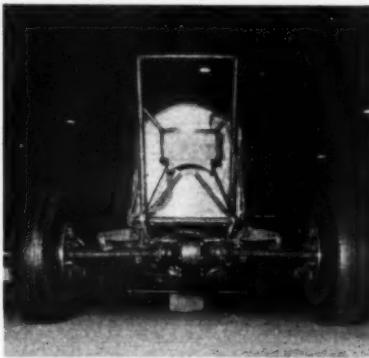
Many parts on the car have been chromed or polished, but the majority of the units have been treated with a heat resistant black wrinkled finish, presenting a new look in paint jobs for competition machines.

Black wrinkle paint was applied freely to all parts not chromed or polished. Notice cover over hole usually occupied by starter motor. Chromed oil pan has been reworked to accommodate a special, extra heavy, front main cap.



Waffle body is built around the bucket seat, from roll bar to the braces supporting the center mounted Franklin steering gear. The nearly horizontal wheel is from a '40 Ford.

Individual rear suspension uses housings of shortened Ford torque tubes. Roll bar cross braces support limited quantity, pressurized fuel tank. Top time in quarter is 126.67 mph.



*San Francisco's
Palace of Fine Arts is
enhanced by this . . .*

**CUSTOM
CAPRI**





PETE ANGELONIDES had a good reason for turning to Lundquist Coach Craft of San Francisco when he made up his mind to modernize his '53 Lincoln. He knew that Lundquist would arrive at a *new look* for his car and, more important, he knew that the shop would turn out workmanship equal to nothing but the best.

The car, though apparently finished in the accompanying photos, is actually due for much more rework. The top is to be dropped, and the trim to be relocated, the handles to be removed, and so forth. Since the operations are to be completed in stages, and because Pete doesn't care for the half-primed half-lacquered look of many customs undergoing alterations, the reworked areas will be temporarily repainted between the steps.

The car was subjected to a nose-first changing including the grille, hood and headlights. Lundquist convinced the owner that run-of-the-mill frenched headlights were a thing of the dim past. Advanced styling was achieved by shading the lights with sections of sheet metal which were welded and molded to the fenders. The headlight units remain as they were originally—the beam units are removable from the front, as the manufacturer originally intended them to be.

The leading hood edge was extended downward to reduce the grille opening and to achieve a heavier appearance. This was done by unrolling the hood's stiffening edge and adding on a strip of body metal, the lower edge of which was shaped to protrude slightly forward. This necessitated the filling in of the openings in each front fender immediately above the bumper-grille guards. The small floating bar which was previously positioned above the dip-center of the Lincoln bumper was discarded for simplicity.

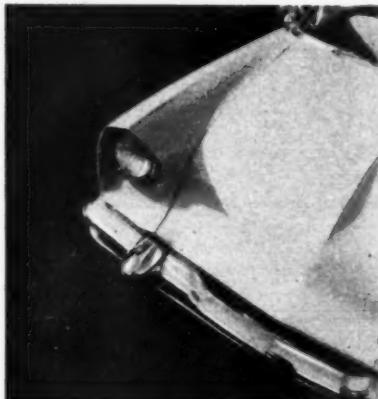
The frontal design was changed even further by removal of the hood ornament and the familiar letters spelling out the Lincoln name. All of the holes were then brazed shut and filed carefully and smoothly.

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To speed up some of the coming major modifications, Lundquist removed the deck ornamentation, rerouted the exhaust through the rear bumper and installed a pair of lowering blocks at the rear.

All of the primed areas were then repainted to match the unaltered panels and the car was finished—temporarily.

By changing a radical custom a little at a time, then painting the affected areas, the individuals concerned are given the opportunity to see, without resorting to a great deal of imagination, just how the finished project is going to look. An innovation which others would do well to copy.



Pedestrians beware! Lanced fender extensions hide the headlight when viewed from the side. Plans call for extensive modifications to the rest of the 1953 Lincoln in the near future.

Moderate restyling to back included trunk lid shaving, bumper-protruding exhaust, lowering.



THE BARRIS KORNER

Single exhaust or dual—here are some outlet conversions



Square extension, available from Barris, protrudes through bumper to prevent corrosive gases from marring the bumper's chrome finish.



Another Lundquist example is this dual exhaust through each end of rear bumper giving the car four outlets instead of the more common two.



If you don't like rear bumpers as a location for pipes, try stuffing one through each running board—if your car happens to have them.



ROD AND CUSTOM, May, 1954

EXHAUST, OR tailpipe, extensions have a strange way of cropping up in the different departments of ROD & CUSTOM. It's probably because there are so many different ways of mounting them in any one of endless locations. Nevertheless, the main point is this: pipe tips are fast disappearing from their usual position below the rear bumpers of enthusiast-owned cars. This new trend came about after years of thought regarding curbing- and driveway-smashed tips. An obvious solution to the problem is by extending the outlets through the rear bumper. Such extensions can be made oval, flat, round, square or diamond shape. They can also be run singularly, in pairs or in multiples of three or more, to suit personal choice.

Here, then, are a few suggestions if you are trying to reach a decision on exhaust tip shapes and locations. All require work, some more than others. A few will necessitate re-plating the bumper while some require only a round hole which can be easily cut with a drill and a file. Take your pick, then, or use these ideas as a starting place and see if you can come up with an innovation of your own.



Lundquist Coachcraft, of San Francisco, built
gigantic rear fender caps on Cadillac El Dorado
and added round exhaust through lower edge.



This oval flange was hammered around the cut
opening by Bertolucci Custom Shop in Calif.
Shaping necessitated replating entire bumper.



The outlet on this Mercury is handled by the
Barris Kustom Accessory Co. Oval was cut in
bumper and tip bracketed from opposite side.



Another inserted, oval tip set flush with the
bumper. This one is equipped with two "teeth"
to break up the expanse of the exhaust opening.



A neat fillet was added between round tip and
bumper. Though pleasingly simple in appear-
ance, job was expensive due to replating bumper.

Photo by Barris



*A real
henhouse roadster*

BLACKIE'S

CHICKENCOOP

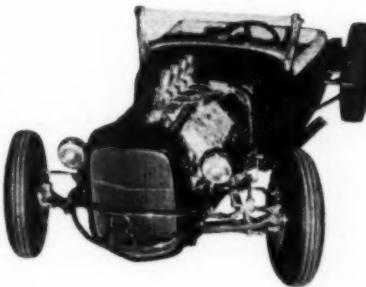
THIS IS the saga of a street roadster that was built — not in a garage or a shop like countless other home-engineered cars — but in an old henhouse.

When Blackie Gejeian of Fresno, Calif., decided to be the first in his town to have a really hot street machine — this was back in 1945 — he began looking for a suitable place in which to construct the car of his dreams. The family garage was housing his father's car so Blackie would either have to do his building in the open air or assemble some sort of shed from what scrap lumber happened to be lying idly about. Blackie chose the latter course and, determined to build a car or die in the attempt. He was searching for a saw and a hammer when his glance fell on a large chicken coop of the walk-in type. Though the inhabitants put up a squawk that could be heard for miles, Blackie eventually succeeded in ousting the rightful owners from their home and turned to the project more important at hand.

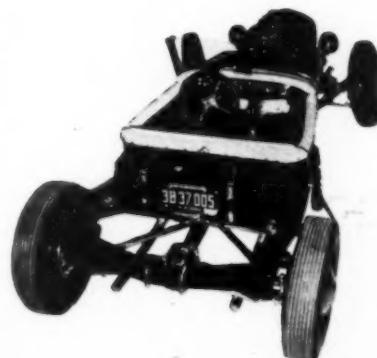
The first component to be brought into the hencoop was a '34 Ford frame which was immediately shortened to provide a wheelbase of 100 inches. Unwanted holes were filled since plans called for leaving a good percentage of the frame exposed.

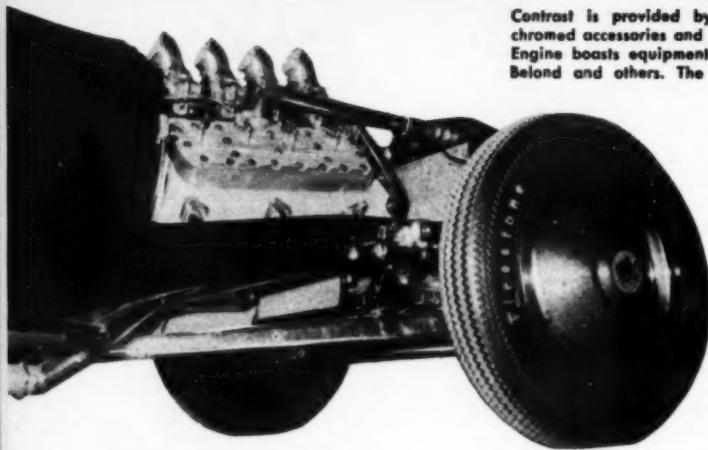
The second item to be brought to the coop was a well used '26 Model T pickup body. With a natural desire to have something just a little different from the usual, Blackie decided to neither channel the body over the frame nor leave it stock height but to reach a happy compromise instead. Six inches were trimmed from the lower portion of the body and the remaining upper part was welded directly to the frame. The frame rails themselves, then, form the lower body sides. This business of welding a body directly to a frame is something to be frowned upon — unless drastic corrective measures are taken to prevent the torsional stresses, imposed upon the frame while traversing a rough road, from being transferred to the body. When this occurs the windshield may break, the doors may cease to fit and the metal work may start coming apart at the seams. To prevent such things from occurring, Blackie constructed several tubular supporting members which were welded to both the frame and the body. Therefore, the two are rigidly combined as a single unit and nine years of hard driving have not jarred the body or cracked the fillets which mark the joining of the rails and the base of the body.

From the same '34 that had provided the frame, came the rear axle and the steering gear. Due to an unfortunate accident which cost the life of one of Blackie's close friends, Blackie decided against using a dropped axle or splitting the front wishbone. To be different, then, he found a Ford tubular axle which he quickly installed with a stock wishbone.



Hot Merc powerplant pushed car through $\frac{1}{4}$ mile at 104 mph. Traction was bettered by filling fuel tank with water. Body is neither stock height nor channeled, body was trimmed and welded directly to the frame rails. Radiused fillets mark joining of the two components.





Contrast is provided by white block engine, chromed accessories and black body and frame. Engine boasts equipment by Edelbrock, H & C, Belond and others. The car weighs 2100 lbs.

Photos by Moon

The ends were fitted with '46 Ford spindles upon which were mounted a pair of 16" Kelsey-Hayes wheels — the same as those used at the rear of his car.

He joined a '46 Mercury block to a '38 Ford transmission which, incidentally, was filled with the cogs from a Lincoln Zephyr. The mill was stroked out $\frac{1}{8}$ of an inch and overbored to the same dimension giving a displacement of 296 cubic inches. The cam is a 404 Iskenderian while the pistons and the four-carburetor intake manifold bear the stamp of Edelbrock as do the 9-1 heads. Ignition is adequately taken care of by a Harman and Collings magneto while exhausting is via a set of Belond headers. The tailpipes were built by Blackie and extend beneath the rear axle of the car.

As the reader may or may not have noticed, the familiar tail section of the Model T is conspicuous by its absence. The beautifully black lacquered frame constitutes the rear of the car, the rear crossmember being used as a mounting place for the taillights — truck clearance lights incorporating both tail and stop elements as signals.

The cooling problem was answered by using a four-inch thick core utilizing late Ford tanks. The radiator is concealed from view by a chopped and filled '32 grille shell.

As is the case with the majority of owner-constructed rods, Blackie could hardly contain himself until the day he could drive the car from its coop and take it out on the road or to the Lakes — there were no officially sanctioned drags in those days. At last, though the car was not entirely completed, it was capable of providing reliable transportation and Blackie took off for one of the Dry Lakes — those freaks of nature which are not dry lake beds at all but great expanses of mud

washed from the nearby hills and with the water content eventually evaporated by the hot California desert sun.

After tuning the car to perfection, Blackie was just leaving the pit area on his way to the starting line when one of those individuals who are frowned upon by the true enthusiast came skidding into the same pit area and slammed into the Chickencoop, directly amidships. Blackie emerged little the worse for wear but, unfortunately, the same could not be said of the car. The outcome of Blackie's labor was literally tied in knots and the engine gasped its last when it was knocked clear of the frame and landed several feet away in a pool of oil. A little disheartened, to say the least, Blackie loaded the engine into a friend's car and the body and its parts into a pickup truck. What remained of the frame and running gear was halved with a torch and stuffed into the trunk of a third car and taken home.

Back at the henhouse work commenced once again and after a long time of replacing, rewelding and straightening, the car was again assembled. The accident had given Blackie a good idea of what further modifications were needed to hold the body even more securely to the frame. A few more cross-members were fabricated and joined to both components and firmly welded.

Two years after the roadster had changed from a pipe dream to a thing of reality, Blackie began approaching the final stages of its construction. This meant the addition of those little details which help to set the car apart from others. Chrome plating was begun in earnest — a job which is even yet not concluded though the operation is going into its eighth year. It would be far simpler to list the parts which are not chromed than

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to list the parts that are. Literally everything that was not too large to go into the Calif. Chrome Co.'s tanks was subjected to the rigors of plating and buffing. To mention a few items thus treated, we find the front axle and component parts, headlights, engine accessories, nerfing bars, steering gear, rear axle housings, driveshaft housing, front and rear springs and practically numberless smaller items such as the gas tank straps, shift lever, and so on almost endlessly.

Not even Blackie can tell you what make of car supplied the tail-mounted fuel tank. He discovered two such tanks in an old junk yard and immediately saw their possibilities. In an experimental method, he removed the inner baffles from one of the tanks but soon found that when rounding a turn, the fuel shifted from one side of the tank to the other with a noticeable effect on the car's handling. This tank was discarded in favor of the second one which Blackie preferred to leave as is. Its capacity is twenty gallons and, at times, is called upon to serve a rather unique function in the automobile.

At the drags Blackie found that the car was extremely light in the rear due to the lack of a body tail section. Rear end lightness is generally accompanied by great clouds of pungent burnt rubber as the wheels fail to gain traction when coming out of the chute. The solution was reached by filling the tank with water and adding a small fuel tank in the driver's compartment. The twenty gallons of water provide approximately 125 lbs. of extra weight which is sufficient to give the T enough traction to attain 104 mph in the standing quarter which it recently did.

At the present time the car is in its ninth year of construction but Blackie has not yet run out of ideas.

One of the most unusual features about the 2100 lb. bomb is that the seat cushions are below the level of the floor. The car, though, can be accurately described as providing a comfortable ride and the fact that Blackie has driven his Chickencoop through many states and to Mexico is proof that the car is not only beautiful appearing but carefully engineered as well.

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Cockpit features seats lower than floor, a midget-type steering wheel, a chromed gear case cover and dash full of 5 W instruments. Upholstery is black and white leatherette.



ACCESSORY INSTALLATION

venting

via the karrozzeria louver

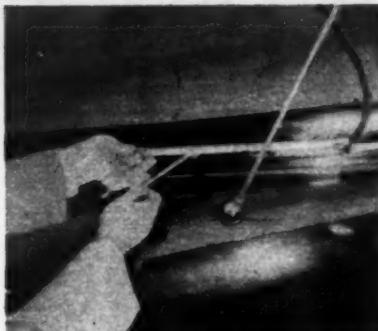
Photos by Barris

WE HAVE shown you many ways in the past to add air scoops and louvers to your car, both *where* and *how*. Their popularity indicates that they have caught on in the customizing field in a big way. Scoops and vents are readily adaptable to almost every body panel of any car and, moreover, they can be made to serve a variety of specific functions. Engine cooling and compartment venting, brake and wheel assembly cooling, and so forth. However, their use has one major drawback that plagues the novice who wants to add them to his car. They require metal reshaping and eventual painting which is often beyond the ability of the younger enthusiasts.

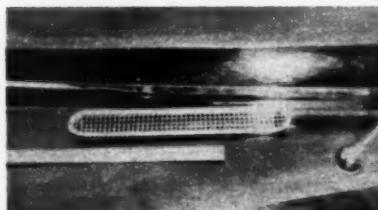
Barris Kustom Accessories, 11054 S. Atlantic Blvd., Lynwood, Calif., has the answer for those who don't want to take a chance of marking up the hood or fenders of the family automobile.

The Karrozzeria Louver is a chromed vent air scoop with a protective screen over the opening to prevent dirt from entering the compartment to be vented. Its installation, described in conjunction with the accompanying photographs, is easy, takes less than a half hour for completion and does not require that the area surrounding its location be repainted or otherwise altered. The items sell for \$3.95, is available from Barris Kustom Accessories, and measures 10 inches by 2 inches. All that is needed in the way of tools for its addition to a hood, fender or other exterior body panel is a tape measure, a drill, a file and a pair of tin snips.

Installation of the louver is as follows:



This particular installation is the hood sides of a typical late car, left side shown. First is determining the distance from the hood end and marking tentative location with a pencil.

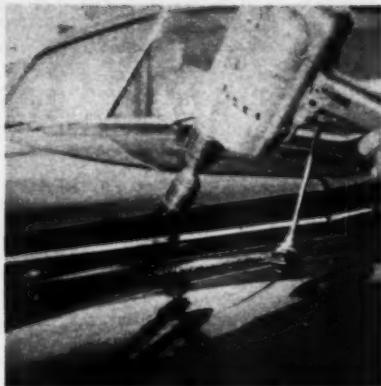


Louver should be as nearly parallel to edge of hood as possible, check measurement before attempting to scribe exact location. Louver outline can be marked in hood paint with an icepick.

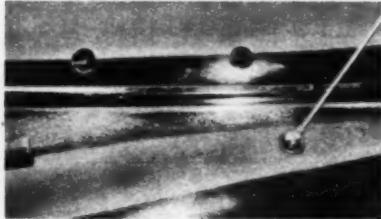
Determine center of end curve radius and center-punch the mark to accurately locate the electric drill. Louver will assist in venting engine compartment, a valuable asset during hot weather.



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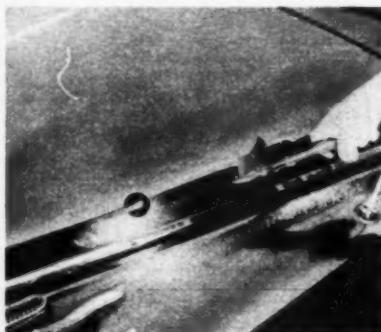


The extreme ends of the louver opening are cut in the hood panel with a drill-operated hole saw. Few home shops are equipped with this device so the enthusiast can use a small drill and a file.



The holes have been cut in the hood and the job is now ready for the next step. The edges of the opening, from which paint will chip during the cutting, will be covered by lip on the louver.

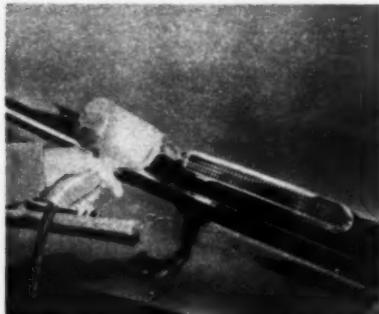
Area between end holes are carefully cut with tin snips. Surrounding metal will not distort if the cut is made slowly and an effort is made not to twist the snips during the cutting step.



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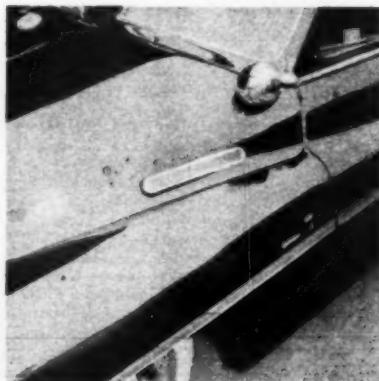


Cutting is completed and all that remains is to install the louver. Hood side used here is but one of many positions where the Karazzeria Louver, chromed, can be placed advantageously.



Louver is inserted in opening and a small hole drilled at each end for metal screws. Louvers are available from Barris Kustom Accessories and sell for the reasonable price of \$3.95 apiece.

Completed installation on '50 Mercury aids the overall appearance of the car considerably, and the small investment plus the short time for the installation is well worth the effort put forth.





Grille alterations to the Lin-Merc. include the addition of Mercury teeth. Color of the big convertible is Bittersweet Orange lacquer. Lowering is reasonably moderate, 1" in front.

THE LIN-MERC.

"Mercury-izing" a Lincoln

Photos by G. Barris

A VERY NEAT custom conversion can be had by adding Lincoln components to a late Mercury thus making the smaller car resemble its big brother. Here is the result of adding Mercury parts to a Lincoln — a novel twist if we ever saw one.

This '53 Lincoln Capri convertible belongs to Beryl Berry, a widely known Lincoln-Mercury dealer, who brought his car to the Barris Kustom Shop in Lynwood, Calif., to have it singularly treated. His rather unusual request had the Barris brothers temporarily stumped, "Make the Lincoln look like a Mercury", he stated. After a little hesitation, the Barris' tore into the car and soon had its space in the shop cluttered up with discarded Lincoln parts and new Mercury parts. As

directed, the car indeed began to resemble its less expensive counterpart.

The special continental kit was incorporated into the body styling by the lengthening of the rear fenders a full twenty inches. The original taillights were added to another customer's Mercury while the Merc lights were built onto the Lincoln.

The Lincoln bumper, in order to follow the new contours of the Mercury extensions, had to be reworked and, consequently, re-plated. The extended rear gravel deflector was molded to the body thus becoming an integral part of the car instead of an obvious change made as an afterthought.

Despite the added weight to the rear of the convertible, two inch lowering blocks were

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installed — making it difficult for the driver to negotiate steep driveways. Fender skirts from a '51 Mercury were recountered and positioned on the Lincoln.

Frontal alterations called for the addition of '53 Mercury grille "teeth" and for the use of "Mercury" and "Custom" insignias.

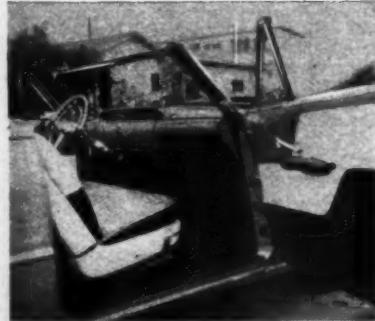
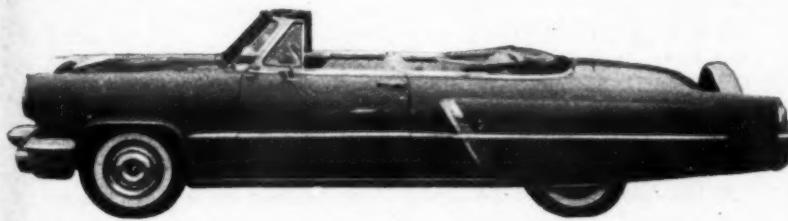
A newly decorated interior, featuring black and cream Naugahyde both pleated and rolled, sets the car off from others of the same styling in the Mercury family.

Resorting once again to the Mercury touch, the Capri was painted Bittersweet Orange lacquer which brought the car up to completion and ready for the customer.

Shortly after the car was returned to dealer Berry, a Mexican Road Race conversion kit was added making the heavy custom easily capable of holding its own should anyone be tempted to pit something much lighter against the unique Lin-Merc.



'51 Mercury skirts were cut down and reshaped to fit the Lincoln fenders. 2" lowering blocks were used but the added weight of the continental kit brings car even closer to the ground.



Interior is done in black and cream Naugahyde, both pleated and rolled for added appearance. Mexican Road Race conversion kit is added to the car for increased performance. Owner is well known Linc-Merc. dealer, Beryl Berry.

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Lincoln fenders were extended rearward 20" and fitted with Mercury taillights. Bumper was recountered to fit the additions. Gravel deflector has been molded to the body. Spare is neatly encased inside a full metal cover. Exhaust is routed through headers and duals.

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BARKER HI-LIFTS

...Rocker Arms for your Chevrolet

Dynamometer test show increases of 7 to 10 HP plus gains in gas mileage when using Barker Hi-Lifts. Easy to install in a matter of minutes with no special tools or skill necessary. Hi-Lifts are a must for performance seeking Chevy owners. Give your Chevy new life... Order today!

'41-'53 Standard
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Technical Tips

CHEVY V8?

Could you tell me if Chevrolet ever made a V8 engine with overhead valves?

P. Cartner

Cleveland, Ohio

• Every Chevrolet produced since the company's inception in 1912 has been equipped with overhead valves. Chevrolet built a V8 along about 1918.

Tech Ed.

MANIFOLD QUESTION

On page 46 of your February issue, under Accessory Installation, there is a picture of what I assume is a dual intake manifold for an Oldsmobile. Can you tell me the manufacturer and the availability of the item?

Tom Castelbary Redwood City, Calif.

• Sorry, Tom, the manifold in the illustration fits the new Studebaker V8. Several manufacturers make manifolds for the Olds V8, including Edmunds, Bell Auto Parts, for one, handles the unit which sells for \$69.50. Bell's address is, 3633 Gage Ave., Bell, Calif.

TO SHACKLE OR NOT TO SHACKLE

I have a '40 Ford convertible that I have moderately reworked and now I would like to lower it. I have extra long shackles but have been told not to put them on the car. My friends say they will spoil the car. They also tell me that dropping the rear of the Ford will cause excessive oil leakage from the rear main. How about it?

Vernon Erickson Plainfield, Wis.

• Don't know what your friends mean by shackles "spoiling" your car, unless they are referring to the handling qualities. Lengthening the shackles on pre-1949 Fords and Mercurys causes the car literally to swing on the shackles. This condition will cause the rear wheels of the car to have a steering effect, making its line of travel unpredictable. Dropping of rear end of car should have no harmful effect on rear main to develop oil leak.

Tech. Ed.

REJUVENATING A '32

I own a '32 Ford and I would appreciate whatever advice you could give me on mildly hopping up the engine and cleaning up the car's exterior.

ROD AND CUSTOM, May, 1954

our reader's customs . . .



134 COUPE

I am a regular subscriber to R & C and really look forward to receiving my copy each month. No suggestions for improvement, but just keep up the fine work.

Enclosed is a photo of my rod. It has a '48 Ford engine with milled heads and headers. The brakes are hydraulic and it has a truck clutch. The headlights have been mounted just above the bumper. At present the color is a pale green.

Gary Taylor

Salt Lake City, Utah



READY FOR BLAST OFF!



In the past I have been a constant reader and enthusiast along customizing lines from your fine books. I have gained quite an immense knowledge pertaining to customizing from them. Oh! Please tell me, and 10,000 true enthusiasts, how you can suggest by merely shaving a hood or a deck you have

attained supremacy in the art of restyling.

This is an art which you cannot do accurately in a short time. However, when you smooth a deck or a hood you are actually deflating your ego if you think you are a genuine customizer.

Well, here's one from down Cincinnati way. I hand-formed this rocket ship effect on a '51 Merc for a friend of mine, Kerns Sammons. The taillights are '53 Ford with a 37½" long and 23½" high extensions. The tailpipe extensions are 5" in diameter, ¼" steel pipe chrome plated and frenched through the fenders. There is yet to be a continental kit to be installed.

Keep the swell magazine coming. BUT, let's see something new — not so many smooth hoods and decks.

Pat Jones

Cincinnati, Ohio

• Everyone to their own taste.

NOW WE'VE SEEN EVERYTHING

"What's Become of the Model T?" in your January issue prompted me to ask: "What's Become of the '32?" To provide myself with an answer, here is a delivery bicycle with a chopped '32 grille shell.

Bob Deull

Kenmore, New York

• Words cannot express our thoughts.



"NEW TRENDS" AGAIN

When I picked up your October issue I found to my surprise the article called "New Trend In Design". Strangely enough, my brother and I have done much the same thing to my '53 Mercury.

The rear fenders on my car are extended rearward 10¾" by using the hood of a '50 Kaiser for sheet metal. The gas filler pipe was then extended upward through the center of the spare. The license bracket and hub cap were joined so they could be pulled out

of the way to fill the tank. The tire can also be folded down for trunk access.

All the work has been done at home by my brother and myself. To date the total cost has been only \$25.97. Still to be installed is the tire cover, then the car will be painted. Our next step will be to lower it two inches and add casters.

Incidentally, the tire mounting bracket was made from $1\frac{1}{4}$ " plate welded to two universal joints giving a good center bearing hinge.

Al & Reuben Issler San Francisco, Calif.

• *Thanks for proving to our readers that quality customizing does not necessarily mean a large outlay of money.*



RATON CUSTOM

Here is a snapshot of a car that I modified for the owner. There are very, very few custom cars around here and I would like to see this in your fine magazine in hopes it will encourage the enthusiasts in this part of the country. I run an upholstery shop here in Raton and I also do paint and body work as a hobby. As you can see, the '39 Ford has been rebuilt from front to rear.

Tony Rea

Raton, New Mexico



ROD AND CUSTOM, May, 1954

variety mart

A phone call from a reader in Ohio recently proved that Variety Mart is the place to look if you're planning on selling or buying anything in the automotive line. The caller stated that he had searched for months for a particular car. He saw one advertised here and immediately bought it. All of this a scant three days after the issue went on sale. You can get results like this. A letter bearing your ad, in 25 words or less not including your name and address, and a dollar bill is all that is required. Just address it to Variety Mart, ROD & CUSTOM, 4949 Hollywood Blvd., Hollywood 27, Calif. NO COMMERCIAL ADVERTISERS, PLEASE.

WANTED! '41 Ford business coupe. Must be in good condition and clean. Either stock or customized. Will pay cash! Send picture and information to me. Lawrence J. Young, 600 Baldwin St., Elkhart, Indiana.

TRADE! FRANKLIN STEERING in good condition for a '32 Ford roadster windshield and frame—or what have you? Dave Green, 155-17 Sanford Ave., Flushing, New York.

SELL! Channeled '32 roadster. Chrome front end, full race 3 $5/16$ " x 4" Merc. Zephyr gears. 3.78 rear end. Custom upholstery & top. Photos and price on request. Keith Troutwine, 306 North Main, Arcanum, Ohio.

TRADE! Roadster described above displayed in many shows. Featured HOP UP, December '52. Trade for fendered, 3-window, '32 coupe. Engine not important. Keith Troutwine, 306 North Main, Arcanum, Ohio.

URGENT!!!! Must have Chevy $1\frac{1}{2}$ ton pickup bed and rear fenders, '48 or later, IMMEDIATELY. State condition and price. Must be close to So. Cal. ROD & CUSTOM, 4949 Hollywood Blvd., Hollywood 27, Calif.

EXPERIENCED CUSTOM MAN wants work for evenings. Moderate or radical restyling. So. Calif. area. Reference—'49 Chevy, June and Sept. '53 HOP UP. Phone—Empire 9-2839.

INFORMATION WANTED. Need suggestions for restyling late Chevy pickup. See "Top Chopping" in this issue. Send ideas to ROD & CUSTOM, 4949 Hollywood Blvd., Hollywood 27, Calif.

NEEDED! Left window regulator in good condition for '32 Ford three window coupe, one right front fender in good condition for same car. John E. Farrar II, 100 East Base Line, Highland, Calif.

(Continued on Page 66)

'42 ROUNDUP

In the January issue we expressed the desire to see as many reader-owned '42 Fords as we could. Since production of all 1942 cars was curtailed because of World War II, only a relative handful of the models saw their way into the public's hands. A good many more were used as transportation vehicles for the various branches of the Armed Services

and were later sold at auction or through used car lots. Thus, some of these cars are still in use though thousands have been destroyed due to the hard service asked of them through the rationing years.

In response to our request a few readers have sent us photos of their '42 Fords. Some have been the recipient of mild hood dechroming, some have been restyled to resemble a '46 or later model and still others have been, or are being radically reworked.

Without further ado, here are a few samples of the type of work being done by enthusiasts on their own '42's.



Marc Benson of Seattle, Wash., sent us this photo of a friend's '42 convertible. Even though 12 years old, the car looks as good or better than a good many newer cars. Color is dark blue.



Radical lowering, louvered hood, filled rain molding and an electric trunk are features of Chuck Brasher's club coupe. Rear is dropped by long shackles and the front by a dogo axle.



The interior of this sedan features black and white leatherette and all of the hardware has been plated. The car is owned by Floyd Perry who hails from California's capitol, Sacramento.



Reader Tom Carlson of Fresno, Calif., thinks that the '42 was a lemon so he has changed the engine and a good percentage of the body. The car is to be chopped and a padded top added.



A section of a '51 Ford grille has been added to Raymond Lehr's coupe, and he has filled the hood and deck. White wall tires set off the dark metallic green lacquer job. Location is Kansas.

Unusual cars from the area in and around West Virginia are few and far between. To top this off, it takes a lot of nerve to build a car entirely different from those constructed by the overwhelming majority of enthusiasts. Thus a truly *different* type of car from a location where built-up cars are scarce is a real rarity. That is why Morton Furst has been chosen to provide us with our second Readers Car of the Month.

Mr. Furst hails from Weirton, West Virginia where he is employed as a salesman for a hardware concern. Having had no previous experience in constructing cars, it took a good deal of raw courage for him to strip his '37 Ford down to almost nothing and begin to reassemble the parts into this sports rod.

Reassembly of the '37 went rather slowly due to the lack of know how but as the work progressed so did Furst's knowledge. The chassis was reunited as a stock unit with only the worn or corroded parts being replaced. The brakes were the first things to be installed which were not on the car originally. The stopping equipment from a '39 Ford was chosen since the '37 models were notoriously poor *whoa-ers*. The engine, too, was replaced by one from a '39. Modifications are mild, the mill being bored to Merc size and the heads were milled .050".

Starting with nothing more than several pieces of sheet metal, Furst constructed the body without outside help. The panels were shaped as desired then welded and the joints smoothed over. Fenders were built from discarded spare tire covers and were mounted to the brake backing plates. By the time the rod was completed, Furst discovered that he had consumed 19 months of time but only \$400.00 plus, of course, his initial investment.

The owner reports that the car has seen an actual top speed of 105 mph despite the conservative engine refinements. This was made possible by the low overall weight of the car — only 2000 pounds.

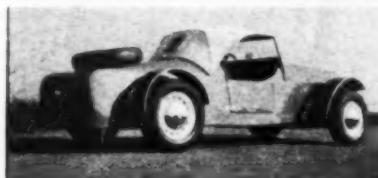
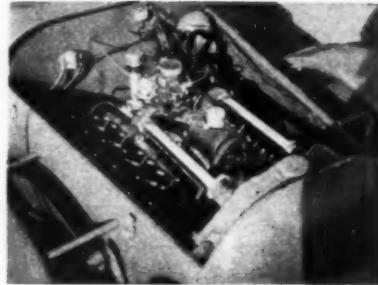
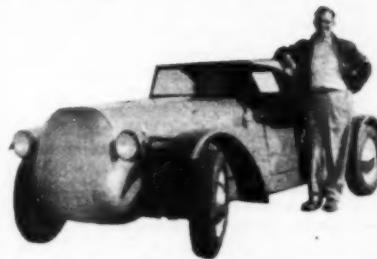
During the building of his car, Furst's interest in things automotive climbed until at present he is the secretary of the "Weir-Rodders", a local club devoted to safety and to the betterment of hot rodding in the eyes of the general public.

Mr. Furst is to be congratulated on the fine job he has done and upon publication of this, the May issue of R & C, he will receive a twelve month subscription.

Would you like to see *your* car on this page. Just send us several quality photos of your car and the information such as engine modifications, body alterations, a bit of personal background and the names and addresses of anyone who might have helped you during the building. Send it to us in care of Readers Customs. If your car is chosen as being particularly outstanding, you will be notified and will receive a subscription.

readers

CAR OF THE MONTH



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CORRESPONDENCE
(Continued from Page 7)

ing on customizing even though special skills are needed for this type of work. In addition, I am taking mechanical drawing courses and a class in design. Where, can I get some practical experience in such projects as chopping, channeling, sectioning, etc? Customizing is practically unheard of in my area.

Donald Spilde Stoughton, Wis.

• Don't believe there are any customizing speciality schools in this country, Don. Most Custom men learned the body straightening business from the ground up then, with a background of much practical work, taught themselves the art of restyling. By way of suggestion, learn as much as you possibly can about straightening and, particularly, body realignment, then try your hand at filling holes, etc. If you have a natural tendency for this sort of work, tackle a top or two. If the job seems easy to you, then you're ready for major alterations.

SQUAWKS

I enjoyed reading your February issue but would like to register a couple of complaints.

1. I think the Manta Ray looks like a nightmare that got out of hand. If this is the car of the future, then give me the good old days.

2. Why waste two pages on a listing of Rodders Definitions? Can't you find anything better to fill the space?

Jerry Kimball Philomath, Oregon

• 1. Everyone to their own likes and dislikes.
2. " " " " " "

LIBRARY OF VEHICLES

In the November '53 issue I noticed mention of Everett Miller's Library of Vehicles. I cannot locate the town of Eagle Rock on a map so was wondering if you could supply me with the full address?

Walter Yeider, M.D. Eureka, Calif.

• The Library of Vehicles is located at 2929 W. Broadway, Eagle Rock, Los Angeles, Calif.

WHAT DID HE SEE?

I read and enjoyed your article on the making of dashboard accessory knobs (November, 1953) and enjoyed and appreciated it very much. More of the same, please.

By the way, I noticed in your photo of the dash of a '51 Mercury used to illustrate the article a large handle in the lower right corner. Since my '51 Merc. doesn't have such a handle I was wondering what it was.

Bob Mumment Astoria, Ill.

• Shame on you, Bob, that's not a handle, it's a telephone.

ROD AND CUSTOM, May, 1954



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TECHNICAL TIPS
(Continued from Page 57)

hundreds of dollars invested in materials and necessary items of equipment.

Chevrolet used the same dash panel from '41 through '48. The stampings are roughly the same so you could retain your present panel and use later Chevrolet instruments. If this doesn't meet with your approval, your cowl is the same as the smaller Oldsmobile and Pontiac units from '41 through '48. Dash-
es from either of these cars can be readily in-
stalled without body alterations. Tech. Ed.

HOOD PROBLEM

I am a constant reader of your magazine and enjoy it very much. I urge you to continue the fine work. I especially enjoy the various custom features you present since I am an avid customizing fan.

I owned a '48 Plymouth and partially de-chromed it myself. Two months after filling the hood, cracks began to appear in it. While filling the crease in the hood we had considerable trouble with it buckling and only finished the job after a considerable amount of trouble with it.

I now have a '49 Chevy and, like the Plymouth, I have begun moderate changes to the body. I want to fill the hood but after my experience with this sort of job I am a little afraid to begin. What shall I do?

Leon Llewellynn

Parsons, Kansas

• The October '53 issue of R & C included the Fourth Step to Customizing and in it Author Tramz told how to properly fill hood with a minimum of panel distortion and with none of the too-familiar cracking out once the job was completed.

Tech. Ed.

READERS SUGGESTION

I notice in R & C from time to time that your readers want more Plymouth information. I thought I'd tell you what I did to mine and that this information could be passed along to others.

I started with a '47 Dodge block and had it ported, relieved and bored out to take Kaiser pistons. To stroke it I used a '50 Dodge industrial crankshaft and rods. I was careful to find a shaft as nearly perfect as I could. The Dodge head was milled .060". The valves are from a Chrysler 6 and the Dodge cam was reground so that it would be comparable to a $\frac{3}{4}$ race model. I used a Tattersfield dual manifold with two Ball & Ball carburetors. Dual exhaust was attained by burning a hole in a stock exhaust manifold and running in another pipe. The mufflers are Dynatonics.

The manifolds were matched to the block. Incidentally, this seems to be an oft-overlooked step on the part of many rod builders. It's well worth the extra trouble.

The ignition was stock except for the lobes on the cam of the distributor which were ground off a little to give maximum efficiency.

The engine was mounted in a '48 Plymouth and I was well pleased with the results. The car had excellent acceleration, good gas mileage and reached a top speed of 104 mph when timed by the clock.

I removed the engine from the Plymouth before I sold the car and now have the engine for sale. It's complete and ready to install.

Richard S. Kovach

166 East Ave.
Hampton, Virginia

• Thanks, Dick, for calling the too-often-overlooked Plymouth to the attention of our readers.

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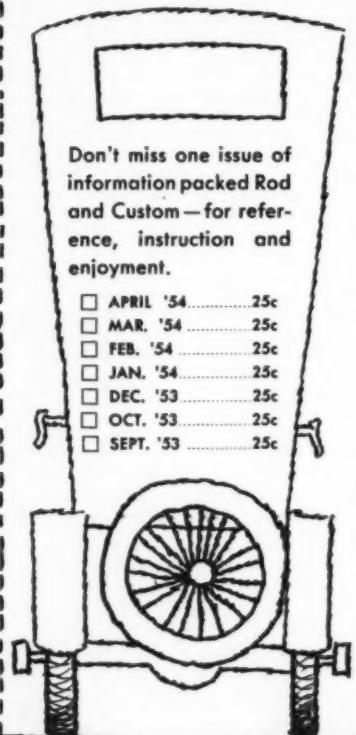
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VERSATILE FUEL SYSTEM

(Continued from Page 33)

regardless. They should be mounted within easy reach of the driver: on the dash, in the floor, or to an easily accessible bracket welded directly to the frame of the car. The base of the pump contains a single outlet hole into which is screwed a T fitting. One outlet of the T runs to the fuel tank to be pressurized while the other should lead to a release valve so that the system can be freed of air pressure should the driver desire to do so. The pressure release valve should be within easy reach of the driver like the pump itself.

Diagram #5 illustrates the manner in which a pressure system can be added to the auxiliary fuel tank. Notice that the system incorporates a pressure gauge which will give the driver an immediate indication of the amount of pressure reached. This, too, should be conveniently located so a swift glance is all that is required to read the dial.

The reader may note that the gauge is not connected directly to the tank but to the fuel block instead. If the gauge were connected directly to the tank, the reading would indicate the pressure in the tank alone. This is not an indication of the pressure at the carburetor or fuel block which is really what we're after. Theory has it that pressure is equal at all points along a particular line. This would hold true if the fuel line contained no outlet; however, the carburetors contain a bypass feature which cannot be overlooked. Therefore, the pressure reading should be taken from a point as close to the carburetor or fuel block as is convenient. Too, this will give an indication of the fuel pump's efficiency when it is being used to provide the engine with gas from the main tank. A fluctuating of the dial indicator means that the fuel pump is going haywire or that the main reserve is becoming dangerously low.

The two tanks, or independent fuel systems, can now be selected at the touch of a finger. Say, for example, you are running on the main tank fuel reserve and the pressure gauge needle begins to dance before your eyes. The driver can assure himself of an adequate fuel supply (assuming he has a full auxiliary tank) by merely closing the pressure release valve, taking a couple of strokes on the pump (which will fill the auxiliary lines with fuel) and turning the selector valve handle one-half of a turn.

By releasing air, should too much pressure be indicated on the dial, or by giving the pump a stroke or two, should the pressure fall below the amount needed for uninterrupted engine operation, the driver can assure himself of continued, carefree driving.

Fuel blocks, which are available with from two to six outlets, can be installed in any one

ROD AND CUSTOM, May, 1954

of several ways depending, of course, upon the particular car and the number of carburetors. Fuel strainers can be added, or the lines can lead directly from the block to the carburetors. The majority of the stock fuel pumps have built-in strainers, many having visible sediment bowls. Since the auxiliary fuel system is not routed through the stock pump, it is wise to add a strainer anywhere that is convenient between the pressurized tank and the selector valve.

Due to the torque action of the engine on its rubber mounts, which gives the engine a certain amount of flexibility in relation to the firewall, it is recommended that flex lines be used between the fuel block and the carburetors or between the selector valve and a single carburetor. Flex lines also make carburetor removal comparatively easy since

there would be no copper or steel lines with which to deal. Neoprene lines have a low rate of heat conductivity thus making vapor lock a thing of the past, at least at this location. Speed shops or auto supply houses generally carry a wide variety of flexible fuel lines as well as countless sizes and shapes of fittings for the job at hand.

The advantages of any one of the outlined installations are almost too numerous to mention. If a friend wants to borrow a little fuel for some reason, it is a simple matter to slip one of the carburetor flex lines off and pump him out a little using the pressurized tank. For cars used both at the drags and on the street, it requires little effort to switch from ordinary gasoline to your hotter fuel mixture carried in the auxiliary tank. By a simple twist of the wrist, your versatile fuel system can be brought into play.

IMPORTANT NOTICE

As you may have noticed the name HOP UP has been incorporated on the cover of this issue of ROD & CUSTOM.

HOP UP IS NOW MOTOR LIFE

Motor Life, an outstanding magazine, is now slanting its editorial content towards the average automotive enthusiast, rather than to the specialized field of building rods and customs. Consequently the excellent type of articles that formerly appeared in HOP UP Magazine will be in the "new" ROD & CUSTOM MAGAZINE.

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EDITORIAL

(Continued from Page 5)

is, chopping, sectioning, de-handling, solenoid installing, upholstering, etc. Last September saw the engine installed and you will see, in this issue, the unfolding of the roof lowering phase, which is called Part I.

After much discussion it was decided that the body should be of the pickup type. Their construction is generally similar to passenger cars but are simpler to work on, thus clear, uncluttered photos can be made of the detail work involved. Many of our advertisers have professed a desire to show their wares, as it were, on this truck-to-be and for that reason each will be called upon to perform, before the watchful eye of R & C's camera, the duties of their calling.

Just for the record, the motive power of our guinea pig is a '50 Olds V8 coupled to a Hydramatic transmission all of which is stuffed in a '41 Chevrolet chassis.

Progress reports will be given from time to time. If you would like to see certain customizing or engine modifying gimmicks completed before your eyes, drop us a line and we'll see if your wildest dreams are actually attainable. Ideas regarding tailpipe locations, grille designs, solenoid button locations, upholstering and colors are what we are after. Say, for instance, you have been toying with the idea of mounting Lincoln taillights upside down or adapting a Ferrari cagework grille to your car but are a little hesitant to proceed for fear that the outcome will not be as you planned. Drop us a card outlining your idea, no matter how radical it may be, and our special "Board of Deciders" will see to it that the best and most outstanding suggestions are adapted to our truck.

The outcome should be something to see. Progress Report No. 2 begins on page 8.

VARIETY MART (Continued)

WANTED IMMEDIATELY! '46 to '49 Ford coupe without an engine, in good condition. Would like to have radio and heater. Joseph Seip, Jr., 154 Maxwell Ave., Hightstown, N. J.

AVAILABLE. New Ford hoods, fenders, etc., '37 and up. New two brush generators with fan mounting pulley for Fords before '40. All inquiries answered. Bob Aronson, 3 Merrivale Terrace, Great Neck, New York.

FOR SALE. 1948 Lincoln Continental Convertible. 27,000 actual miles, original tires. Can't be sold from new. Perfect condition. Dark blue with light top. \$2750. Wally Volks, Elkhart Lake, Wis.

SELL. 1940 Ford convertible. Chopped top, electric doors, fully molded and customized body. 3 5/16" x 4" engine. New tires. Acquired newer car, must sell. \$265.00. Lynn Cooley, 352 N. Hammes Ave., Kankakee, Illinois.

ROD AND CUSTOM, May, 1954

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ABOUT THE COVER

Why should roadster owner Wally Graner bother to wash his car when he can get pretty Miss Tana Dobeen to do the job for him? The '29 A rod is an Indianapolis-Bred Street Roadster covered in detail beginning on page 14. Just in case you're interested, Miss Dobeen is a showgirl here in Hollywood and has reached the ripe old age of 22. She is five feet, five inches tall—nothing else available. Photographer Poole is responsible for the fine Ektachrome used for the cover.

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An unusual accessory—chrome finish, pleasant two tone signal. Easily installed under car floor by driver's seat. Fits all model cars. (Regular 9.95) **\$4.75**

HIDE-AWAY REAR AERIAL KIT
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15 FT. WIRE
(2 AERIALS) **12.50**
1 REAR AERIAL 15 FT. WIRE **8.95**

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PAIR



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Ford	36-54	Dodge	35-52
Consul-Zephyr	All	DeSoto	35-54
Merc	39-54	Chry	35-54
Chev	36-54	Buick	35, 41, 50-53
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GRILLE BAR
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Set of 4 with Locks
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TRIPLE CHROME
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How I foxxed the Navy

by Arthur Godfrey

The Navy almost scuttled me. I shudder to think of it. My crazy career could have ended right there.

To be scuttled by the Navy you've either got to do something wrong or neglect to do something right. They've got you both ways. For my part, I neglected to finish high school.

Ordinarily, a man can get along without a high school diploma. Plenty of men have. But not in the Navy. At least not in the U. S. Navy Materiel School at Bellevue, D. C., back in 1929. In those days a bluejacket had to have a mind like Einstein's. And I didn't.

"Godfrey," said the lieutenant a few days after I'd checked in, "either you learn mathematics and learn it *fast* or out you go. I'll give you six weeks." This, I figured, was it. For a guy who had to take off his shoes to count



above ten, it was an impossible assignment.

I was ready to turn in my bell-bottoms. But an ad in a magazine stopped me. Here, it said, is your chance to get special training in almost any subject—mathematics included. I hopped on it. Within a week I was enrolled with the International Correspondence Schools studying algebra, geometry and trig for all I was worth.

Came week-end liberty, I studied. Came a holiday, I studied. Came the end of the six weeks, I was top man in the class. Within six weeks I had mastered two years of high school math, thanks to the training I'd gotten.

I.C.S. made the impossible—easy!

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Without cost or obligation, send me "HOW TO SUCCEED" and the booklet about the course BEFORE which I have marked X:						
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